



**Final Report of the Third Regular
Settlement of the Portion of Shahpur
District still paying a Fixed Assessment**

1911–16.

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FINAL REPORT

OF THE

THIRD REGULAR SETTLEMENT

OF THE PORTION OF

SHAHPUR DISTRICT

Still Paying a Fixed Assessment

1911—16.

सन्तानेन निधन



Lahore :

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TABLE OF CONTENTS.

Para.	Subject.	Page.
	CHAPTER I.—THE DISTRICT.	
1	The tract under settlement	1
2	Administrative and topographical divisions	ib.
3	Irrigation—	
	(a) Wells	ib.
	(b) Canals	2
	(c) Spring and floods	ib.
	(d) Torrents	ib.
4	Rainfall	ib.
5	Communications and markets	ib.
6	Population	3
7	Cultivation	ib.
8	Harvests and crops	4
9	Holdings, tenancies and rents	5
10	Alienation of land and land value	6
11	Live stock	ib.
12	Miscellaneous income	7
13	General pecuniary condition	ib.
	CHAPTER II. FISCAL HISTORY.	
14	Early history	7
15	Summary settlements	ib.
16	The First Regular Settlement	8
17	The Second Regular Settlement	ib.
18	Distribution of the demand	9
19	Working of the settlement	10
20	The existing demand	ib.
	CHAPTER III.—REVISION OF THE RECORDS.	
21	Orders received	10
22	Measurements—	
	संग्रहन नियम	
	(a) Map correction	ib.
	(b) Remeasurement	ib.
	(c) Partial remeasurement	11
	(d) Suburban measurement	ib.
23	The preparation of <i>khatanas</i>	ib.
24	Condition of the field maps	ib.
25	Copies of the maps	12
26	Index maps and other small scale maps	ib.
27	The records-of-rights	13
28	Accuracy of the record	ib.
29	Progress of work	14
30	Note-books	15
31	Boundaries	ib.
32	Mutation work	16
33	Case work	ib.
	CHAPTER IV.—REVISION OF THE ASSESSMENT.	
34	Forecast and orders for revision	17
35	Preliminary questions—	
	(a) Assessment Circles	ib.
	(b) Prices	ib.
	(c) Harvests selected for the produce estimate	18
	(d) Classification of soils	ib.
36	Outturns	ib.
37	Deductions for expenses and fodder	19
38	The Landlord's share	ib.
39	Water-dues	20

Para.	Subject.	Page.
CHAPTER IV.—REVISION OF THE ASSESSMENT—concluded.		
40	Resulting half-net assets by produce estimate ...	20
41	Profits from the waste	<i>ib.</i>
42	The full fair half-net assets, as accepted by Government	21
43	Assessment of Bhera Tahsil	<i>ib.</i>
44	Assessment of Shahpur and Sargoda	<i>ib.</i>
45	Assessment of Khushab Tahsil	<i>ib.</i>
46	Assessment of Khushab (a) Jhelum Circle	22
	(b) Thal Circle	<i>ib.</i>
	(c) Mohar Circle	<i>ib.</i>
	(d) Hill Circle	<i>ib.</i>
47	The final fixed demand after adjustment on account of appeals, di-alluvion, etc.	23
48	Water advantage rate	24
49	The initial fixed demand	<i>ib.</i>
50	Well exemptions	<i>ib.</i>
51	Deferred assessments	25
52	Financial results of re-assessment ...	<i>ib.</i>
CHAPTER V.—DISTRIBUTION OF THE DEMAND.		
53	Sanctioned revenue rates	26
54	Other standards applied	<i>ib.</i>
55	Geographical distinctions	<i>ib.</i>
56	Public opinion of the distribution over villages	<i>ib.</i>
57	Distribution over holdings	27
58	Changes in classification between measurements and distribution	<i>ib.</i>
59	Objections and appeals	<i>ib.</i>
60	Soil rates actually adopted in distribution	28
CHAPTER VI.—MISCELLANEOUS.		
61	Royalty rate	28
62	Assignment of land revenue	<i>ib.</i>
63	Cost of settlement compared with financial results	29
64	Instalments	<i>ib.</i>
65	Cesses	30
66	The term of settlement	<i>ib.</i>
67	The revenue staff	<i>ib.</i>
68	Village headman	31
69	Zai dars and jirankhors	<i>ib.</i>
70	Di-alluvion	<i>ib.</i>
71	New cultivation by means of canals	<i>ib.</i>
72	Fluctuating assessments	<i>ib.</i>
73	Suspensions and remissions	<i>ib.</i>
74	<i>swaj-i-am</i>	<i>ib.</i>
75	Gazetteer	<i>ib.</i>
76	Reserved Forests and other Government lands	32
77	Matters requiring the attention of Revenue Officers— (1) The assessment of water-advantage rates and royalty	<i>ib.</i>
	(2) The raising and lowering of assessment	<i>ib.</i>
	(3) The di-alluvion assessments	<i>ib.</i>
	(4) Suspensions	<i>ib.</i>
	(5) Partitions	33
	(6) Map-correction and quadrennial <i>jamabandi</i>	<i>ib.</i>
	(7) Mutations	<i>ib.</i>
	(8) Note-books	<i>ib.</i>
	(9) Deterioration of estates	<i>ib.</i>
	(10) Remissions on wells falling out of use	<i>ib.</i>
	(11) Grazing contracts	<i>ib.</i>
78	Training of officers	<i>ib.</i>
79	Work of the staff	34
80	Points requiring orders	35

No. 21941 (Rev. & Agri—Rev.).

FROM

E. JOSEPH, Esq., I.C.S.,

Offg. Revenue Secretary to Government, Punjab,

To

THE SENIOR SECRETARY TO THE FINANCIAL
COMMISSIONERS, PUNJAB.

Dated 4th December 1918.

Revenue and Agriculture.

Revenue.

SIR,

I AM directed to refer to your letter No. 91—763-1, dated 1st December 1917, forwarding Mr. Leigh's final report of the third regular settlement of that portion of the Shahpur district which still pays a fixed assessment, together with the Commissioner's and Financial Commissioner's reviews.

2. The tract under settlement is the portion of the Shahpur district lying outside the irrigation limits of the Lower Jhelum canal. It embraces the whole of the Khushab tahsil which lies west of the Jhelum and the portions of the Bhera, Shahpur and Sargodha tahsils lying east of the river in a long narrow fringe. It therefore includes a great variety of conditions, but depends for the most part either upon an uncertain and often unseasonable rainfall or upon the river floods, the inundation canals dependent on them, and in the Hill and Mohar circles of Khushab on the hill torrents from the Salt range which also depend on the rainfall. The riverain tract on both sides of the Jhelum is highly developed, while in the Hill circle of Khushab the limit of cultivation has been reached. The greater part of the Mohar and Thal circles in Khushab is still lying waste and any large expansion of cultivation must await the construction of the Sind Sagar canal, the scheme for which is now under preparation. Approximately two-sevenths of the total area is cultivated, and 42 per cent. of the cultivated area is directly dependent upon rain, 10 per cent. is assisted by river floods, 23 per cent. is irrigated by the inundation canals, 20 per cent. by wells alone, and 5 per cent. by wells and canals jointly. The Hill circle of the Salt range in the north of the tract is separated from the broad expanse of sandy desert or Thal, of which the most important products are grain and sheep, by an intermediate submontane region (known as the Mohar) partly irrigated by hill torrents and merging southwards into a plain of stiff clay. Along the eastern boundary of the whole area runs the Jhelum valley riverain, the distinctive features of which are its somewhat unreliable inundation canals and the high water table, that facilitates cultivation from wells.

3. Sir James Wilson in the assessment imposed between 1887 and 1894 found the Bhera and Shahpur tahsils relatively under-assessed in comparison with Khushab, and he accordingly enhanced the demand by 90 and 60 per cent. respectively in the two former, against 30 per cent. in the latter tahsil. Owing, however, to a series of unfavourable harvests certain deferred enhancements in Shahpur and Bhera were never actually levied. Though Sir James Wilson's settlement was scrupulously fair, it had perforce to leave the inequality between the tahsils not fully redressed. Since his settlement the introduction of gram cultivation has effected a transformation of the Thal, and mainly on this account the Khushab tahsil has increased its cultivated area by 38 per cent. Elsewhere the expansion of cultivation has been slight, but irrigation from canals, wells, or hill torrents has undergone

considerable extension varying from 5 per cent. in Bhera to 27 per cent. in the Hill circle of Khushab and 36 per cent. in Shahpur and Sargodha. There has been a growth of population in the Thal and a decline in the Jhelum valley, the change in both cases being economically advantageous. Only among the Awans of the Salt range has over-population led to an excessive pressure on the land, and in their case military service has provided substantial relief. Prices have risen by 35 per cent. in comparison with those actually prevalent at last settlement and by 49 per cent. compared with the lenient prices which Sir James Wilson assumed. The value of land is estimated to have trebled and the opening of the Lower Jhelum canal, while it has to some extent diminished the supply of tenants in Bhera and Shahpur, has brought substantial economic advantages through the development of markets and means of communication.

4. In spite of the insecurity of cultivation over most of the tract, but especially in the Mohar and Thal circles, existing conditions afford ample justification for a substantial enhancement of the demand. The report contains much evidence of the improvement in the resources of the people in recent years, e.g., the figures regarding livestock in paragraph 11 and especially the increase in buffaloes—an asset of the well-to-do—the fact that redemptions are now overtaking mortgages, and the areas given in paragraph 12 of land which the villages under settlement hold in the various canal colonies.

The fixed demand announced by Mr. Leigh will ultimately amount to Rs. 5,61,522 in addition to an estimated fluctuating demand on canal-irrigated land in the riverain of Rs. 82,000, or a total of Rs. 6,43,522. This represents an increase of Rs. 1,65,966 (inclusive of Rs. 16,000 on account of royalty rate assessed on lands irrigated by private canals) or 30 per cent. on the previous assessment, which is less than the equivalent of the rise in prices alone. Moreover, owing to the postponement of part of the enhancement and to the exemption of new wells, the initial increase will be only 22 per cent. It should also be noted that the tract received an unforeseen bonus in the shape of the period—varying from 2 to 5 years in the different circles—that was allowed to elapse between the expiry of the old settlement and the imposition of the new. The final demand is not more than 56 per cent. of that which is in theory due to the State, and in the Thal the percentage is as low as 44, while the incidence per matured acre varies from Re. 0-6-6 in the Thal to Re. 1-13-9 in Bhera. His Honour, whose personal knowledge of the tract goes back to Sir J. Wilson's settlement, concurs with the Settlement Officer, Commissioner, and Financial Commissioner that the assessment is a very moderate one for an average year, and that it makes full allowance for the great fluctuations to which agriculture in this tract is liable. Past experience, however, shows the necessity of prompt relief in adverse seasons, especially in the very insecure Thal and Mohar circles.

5. The new assessments were well received in Khushab, where a larger enhancement had apparently been expected; but in Bhera and Shahpur the increase in the water-advantage rate from eight annas to one rupee and of the royalty rate payable by the owners of private lands from four to twelve annas per acre of matured crops aroused some dissatisfaction. It seems probable that criticism of the latter rate was prompted by recollections of past leniency, rather than by a real sense of harsh assessment. His Honour concurs in the Financial Commissioner's view that the proportionately larger enhancement of the demand on canal-irrigated land is justified by local conditions, and the postponement recently conceded of half the increase in the royalty rate for 5 years is a handsome concession to the owners of the canals. In distributing the demand between villages and holdings, the Settlement Officer was fortunate in the foundation which Sir James Wilson's thorough and admittedly equitable distribution furnished. The work appears to have been done with conscientious care, and in canal villages the extent to which the demand on account of water advantage rate was being raised was duly taken into account. In the distribution over holdings in the Thal and Mohar circles the people preferred to throw a small portion of the assessment on to their cattle in the hope of curtailing the rights of graziers in the village waste. Though the number of appeals against orders of distribution was as high as 70 in a tract comprising only 430 estates, only one of them was accepted.

6. In order to meet the difficulty discussed in paragraph 48 of the report the Lieutenant-Governor has decided, on a separate reference from the Financial Commissioner, that the water-advantage rate on areas irrigated by the Government inundation canals should be assessed on the sown, instead of on the matured, area and should be reduced from one rupee to 12 annas per acre. Failure of crops is to be more generously treated. Remissions for partial failure are to be granted on a prescribed scale on the application of the cultivators. The reduction in the rate by 25 per cent. is calculated to make sufficient allowance for the change in the system of assessment, and there are obvious advantages in having a uniform system of assessing both water-advantage rate and occupiers' rates.

7. Mr. Leigh has dealt at length in chapter III of his report with the revision of the maps and records, a task which in the Thal at least, must have been a difficult one owing to the shifting of cultivation boundaries and the somewhat indefinite nature of the rights in the common waste. Great pains have been spent in compiling statements of facts upon which the various claims turn, and also in preparing records of right of irrigation in hill streams. The unsatisfactory character of the new maps in villages where only correction of existing maps was ordered is unfortunate. The abbreviated procedure attempted in this and the Gujrat settlements has admittedly not proved a success and has now been abolished. His Honour agrees with the Financial Commissioner that the Settlement Officer, who was seriously handicapped by the paucity of the staff for the first two years, did the best that was possible in the circumstances.

8. In regard to the term of settlement the disparity of conditions demands differentiation between the various circles. The Hill circle is fully developed. In the Jhelum valley due allowance must be made for the possibility of deterioration due to water-logging and some possible diminution of flood water owing to the opening of the Upper Jhelum canal. The preparation of a system of fluctuating assessment for introduction in case of need in this area will, however, preclude the necessity for an abbreviated term of settlement. In the Thal area, quite apart from the projected Sind-Sagar canal, which will also affect the Mohar circle, there is scope for great expansion of cultivation, which is also encouraged by the partition of the common lands under the stimulus of the present high prices. When addressing the zamindars of the district at Sargodha last spring, Sir Michael O'Dwyer took the opportunity of explaining to them that in addition to economic considerations, their readiness to furnish men for military service would naturally weigh with Government in deciding the term of settlement. He stated that in the Thal and Mohar circles of Khushab general conditions and the probable construction of the Sind-Sagar Canal indicated a short term of settlement, and that in the rest of the district, in view both of recruiting results and of economic conditions, a term of 30 years was appropriate. His Honour has purposely deferred passing orders on the report in order that he might have an opportunity of judging how far the response of the tract to the special call for recruits justified exceptional treatment in this matter. The response which has since been made by the whole district under the leadership of its maliks has exceeded expectation. The district has now 11,000 men serving in the Indian army, of whom 7,000 have been raised within the last 10 months, and in contributing to this result the Hill circle of Khushab tahsil has been pre-eminent, the Jhelum riverain has done well, the Mohar circle as a whole fairly (though there has been one or two conspicuous failures in villages with large areas of grass land), while in the Thal, with the exception of a few villages, the response has been poor. After again consulting the local officers His Honour has decided that the settlement in the Thal and Mohar circles shall be for 15 years, subject to the condition that it will be open to revision in any estate on the earlier introduction of irrigation from the Sind-Sagar canal. It is anticipated that a considerable part of the Mohar circle will come under irrigation from this canal, but should the canal not be constructed within the term of settlement now sanctioned the question of its extension can be reconsidered for this circle. In the rest of the tract under settlement the term will be 30 years.

It is understood that the Financial Commissioner has passed orders under section 63 of the Land Revenue Act on the question of the instalments payable at each harvest referred to in paragraph 64 of the report.

9. The cost of settlement operations, which lasted over 4½ years, was approximately Rs. 2,87,000, and this will be recouped in two years by the initial enhancement of the demand. In view of the many complexities attending the assessment of the canal lands and the fact that Mr. Leigh had no Assistant or Extra Assistant Settlement Officer to help him, this is a highly creditable result. His Honour cordially endorses the commendation bestowed by the Financial Commissioner and the Commissioner on Mr. Leigh's work, which, though it showed a tendency to over-elaboration, was distinguished by the qualities essential for a successful Settlement Officer, thorough knowledge of the tract, sympathy with the revenue-payers and a judicious regard for the financial interests of Government. The final report is concise and well written. It has been admirably reviewed both by Sir Frank Popham Young and by Mr. Fagan.

I have, &c.,

E. JOSEPH,

Offg Revenue Secretary to Government, Punjab,



No. 91-763-1.

FINANCIAL COMMISSIONERS' OFFICE:

Dated Lahore, 1st December 1917.

FROM

V. CONNOLLY, ESQUIRE, I.C.S.,

Senior Secretary to the Financial Commissioners, Punjab.

TO

THE HON'BLE MR. H. D. CRAIK, I.C.S.,

Revenue Secretary to Government, Punjab.

The Hon'ble Mr. P. J. Fagan, C.S.I. I.C.S.

SIR,

I AM directed to forward a copy of the Final Settlement Report of the Khushab Tahsil and the Cis-Jhelum Riverain portion of the Shahpur District, by Mr. M. S. Leigh, Settlement Officer, together with the Commissioner's review thereon and to convey the following remarks of the Financial Commissioner.

1. The settlement which is dealt with in the present report was undertaken primarily with the object of effecting the usual periodical revision of the State demand, but the presence of certain other subsidiary, though important, objects has added to the complexity and duration of the operations. These were connected with the possible future effects of the opening of the Upper Jhelum Canal on the numerous inundation canals which serve the riverain of the Shahpur and Behra Tahsils. It was considered desirable that in addition to carrying out a re-assessment there should be worked out a system of fluctuating assessment to be adopted if and when possible future deterioration arising from the diminution of river floods should necessitate such a step. Another object was to obtain reliable and adequate material for dealing with possible future claims for compensation on the part of the private canal owners of the nature contemplated by Sections 7 and 8 of the Northern India Canal and Drainage Act VIII of 1873. Incidentally there was involved the further connected question of the future utilization of the Shahpur Branch of the Upper Jhelum Canal which was designed and partly constructed with the object of supplementing possible decrease of irrigation from the inundation canals. That project has however now been definitely abandoned owing to the failure of certain connected negotiations with the owners of those canals of which a succinct account is given in paragraph 5 of the Commissioner's able review.

2. The tract which has been under settlement is fully described in Chapter I of the Report and it is here only necessary to summarise the main features. Broadly speaking it comprises four divisions differing in general character. They are—(1) the riverain on both banks of the Jhelum in the Behra, Shahpur and Khushab Tahsils characterized by the prevalence of irrigation from inundation canals and wells ; (2) the extensive

sandy upland, known as the Thal, in the southern portion of the Khushab Tahsil where agriculture is entirely dependent on rainfall; (3) the hilly region along and within the salt range in the northern part of the same tahsil; and (4) an intermediate portion which on the south is a level plain of stiff clay dependent on rainfall and towards the north a submontane area, locally known as Mohar, of good soil and irrigated by hill torrents. Throughout the tract under settlement, except in the Hill Circle of Khushab, agricultural results are insecure, remarkably so in the barani level tracts of Khushab, while even in the riverain fluctuations are large owing to the unreliability of the inundation canals and their dependence on the vagaries of the river. There are wide local variations in average annual rainfall throughout the tract, the extreme limits being 23·7 inches at Sakesar in the Salt Range and 10·9 inches at Sahiwal in the southern portion of the riverain, while both the yearly, as well as the seasonal, fluctuations of this all-important factor in the local agriculture are remarkable. Under such conditions it is not surprising that the proportion borne by the average annual sown area to the total cultivated area varies from 109 per cent. in the hill circle to 73 per cent. in the Mohar, while the corresponding limits for the average annual area of matured crops varies from 92 per cent. in the former circle to as little as 50 per cent. in the Thal; the corresponding figures for the riverain tract being intermediate. Cropping is not of a high order, the chief kharif staple is bajra though some cotton is grown in the riverain. Wheat in the rabi is however the most important crop, its place being taken by gram in the Thal, the soil of which is well suited for the latter. The agricultural proprietary body of the tract consists of very varied Muhammadan tribes, the most important being Rajputs and Jats belonging to numerous clans while Awans predominate in the salt range. Except in the case of the latter agricultural efficiency is not of a particularly high order. In the riverain and hill tracts the generality of holdings are small and in the latter more particularly there is noticeable pressure of population on cultivated area. In the sandy Thal, as might be expected, the average holding is more ample and here as in a less degree in the Mohar there is room for an expansion of cultivated area.

3. The Lower Jhelum Colony, which adjoins the riverain of the

Development of the tract. Bhera and Shahpur Tahsils, has come into existence since last settlement and has necessarily

had far-reaching effects, both direct and indirect, on the development of the tract which has been under settlement. Though the local economic centre of gravity has been shifted to the colony, the tract, especially the riverain portion, has benefited by the proximity of new markets and of a new line of railway as well as by the general quickening of economic processes. From paragraph 7 of the report it would appear that, while in the riverain apart from new perennial irrigation from the Upper Jhelum Canal there has been comparatively little increase of cultivated area, in Khushab it has expanded by 38 per cent. as a result mainly of gram cultivation in the Thal and Mohar. The proportion of area irrigated has also increased in that tahsil, chiefly in consequence of the growth of canal irrigation. As regards population the Cis-Jhelum riverain showed a slight net reduction during the two decades ending 1911, while in the Khushab Tahsil there was a substantial increase, the result being due in the case of the former to plague and also to migration to the adjoining colony. The reduction has not caused economic injury to the riverain, if anything the reverse. Of the cultivated area of the tract about 12 per cent. is under mortgage, the highest proportion being in the riverain. The greater part of the mortgage is in the hands of other than agricultural tribesmen but the average annual area redeemed is now regularly in excess of the fresh area mortgaged, a result of the Alienation of Land Act. Mr. Leigh is of opinion that the value of land has practically trebled during the term of settlement recently expired. On the whole the present economic condition of the tract is one of progressive improvement, moderate in the riverain and more rapid in the Thal.

**4. In the First Summary Settlement carried out in 1849 on the basis
of Sikh collections the tract now under report,
Fiscal history.**

with the exception of the Thal, appears to have been treated in no very lenient manner but reductions were soon made. In the regular settlement which was completed between 1854 and 1856 further reductions were made in Khushab, except in the Thal where as in the rest of the tract a small increase was taken. On the whole the settlement was a lenient one but during its currency the assessment increased automatically and substantially owing to the expansion of cultivation under leases of Crown waste land. The nature and results of the second regular settlement which was carried out between 1887 and 1894 by Sir James Wilson have been fully described in Chapter II of the present report. One of the main problems for treatment was the proper assessment of the extensive areas which had come under cultivation since the previous settlement by means of irrigation from the numerous inundation canals which had been constructed, many of them by private owners. It was decided to assess a fluctuating canal advantage-rate of 8 annas per acre on matured crops in addition to a fixed barani assessment on the land in its unirrigated aspect. A royalty rate of 4 annas per acre matured was also imposed on the canal owners in consideration of the profitable use by them of the Jhelum water. The total new assessment of the tract absorbed 84 per cent. of the estimated half-net assets, the proportion being very much the same in all three tahsils, while the proportion of enhancement as a whole was 53 per cent., the corresponding tahsil figures varying from 90 per cent. in Bhera to 60 per cent. in Shahpur and 30 per cent. in Khushab. In the first two tahsils however the enhancement was moderated by the adoption of assessments deferred for five years, but in point of fact a substantial portion of the sums so deferred were never actually imposed. Especially was this the case in Bhera with the result that the ultimate pitch of the assessment was lowest in that tahsil though the actual proportion of enhancement was as high as 71 per cent. The failure to impose the deferred assessments introduced an element of inequality into Sir James Wilson's originally equitable distribution as between estates. The settlement worked well with the help of an elastic system of suspension in the Khushab Tahsil where as already noticed agricultural results are especially insecure.

**5. Throughout the tract the system of fixed assessment has been
The system of assessment.**

retained, subject of course to the usual annual adjustments for fluvial action in the riverain tracts. Lands served by the Inundation Canals however pay in addition to the fixed assessment imposed on them in their unirrigated aspect a fluctuating canal advantage-rate assessable on all matured crops, except dofasli, which receive canal water. For flow irrigation the uniform rate is Re. 1 per acre while half this rate is charged for lift irrigation and one quarter for grass. At present there is no other form of fluctuating assessment, but a scheme, reproduced in Appendix V, has been drawn up for adoption in the three riverain circles in case this should be necessitated by diminution of river floods owing to the opening of the Upper Jhelum Canal. It will be seen that the Settlement Officer has found it necessary to frame no less than nine distinct rates for chahi crops in the case of the Cis-Jhelum riverain, and six in the case of Khushab. It will, it is to be hoped, be found possible to reduce these if it should ever become necessary to put the system in force. Certain procedure rules were prepared by Mr. Leigh in connection with the system but have been returned by the Financial Commissioner for simplification. The re-draft has not yet been received.

**6. The factors of the half-net assets estimate based on produce
The produce estimate and half-net assets.**

have been discussed in Chapter IV and it is needless to go over the same ground in any

detail here. The all-round rise in commutation prices was 49 per cent. as compared with those adopted by Sir James Wilson, while the rise in the actual prices was 35 per cent. The selected cycles were somewhat below normal in the Cis-Jhelum riverain and in the Thal and more or less above in

the other parts of the tract. The outturns adopted were fair except perhaps in the case of gram (not shown in Statement I) in the Thal where the rather high rate of 9 maunds per acre was adopted. Cash rents are comparatively rare and gave little or no help in framing an estimate of half-net assets which was based mainly on the produce estimate, liberal allowances being made for expenses of cultivation and kamins' dues and on well lands for fodder consumed by the tenants' cattle. The standard rate of batai rent is a half-share of gram and straw, though on well lands the share of straw is much reduced while on barani lands in the Khushab Tahsil the share of produce is one-third. The adjustment of the payment for canal irrigation as between landlord and tenant is a matter of considerable complexity which was fully dealt with in the assessment reports. The total half-net assets estimate as reported by the Settlement Officer was swollen by the inclusion of substantial sums on account of income from waste, the figures by tahsils being—

	Rs.
Bhera	... 42,500
Shahpur	... 72,000
Khushab	... 1,95,000
 Total	 <hr style="border-top: 1px solid black;"/> ... 3,09,500

It will be seen from the table given in paragraph 42 of the present report that this portion of the estimate was largely reduced in the orders passed, the figure ultimately accepted being a little more than one-third of the above. Reductions were also made in the Settlement Officer's estimates of half-net assets from cultivation. The total estimate of Rs. 11,41,000 for the tract, including income from waste, which was finally accepted was unquestionably moderate and safe in all respects.

7. The financial results of reassessment are exhibited in detail in paragraph 52 of the report. The total new assessment actually imposed, demand, fixed and estimated fluctuating, is Rs. 6,43,500 round and absorbs 56 per cent. of the accepted half-net assets estimate while yielding initial and final enhancements of 23 and 30 per cent., respectively. But the proportion of enhancement as between the fixed and fluctuating portions differs widely, the latter having been more than doubled: in other words the burden of enhancement has been imposed in far greater proportion on canal irrigated as compared with other cultivation, a result fully justified by local conditions. In dealing with the forecast report in 1911 the Punjab Government anticipated a total enhancement of land revenue for the tract of Rs. 71,000, of which Rs. 42,000 would be in the Cis-Jhelum riverain and the balance Rs. 29,000 in Khushab. As compared with this the final enhancement, including estimated fluctuating canal revenue, will be almost exactly Rs. 1,50,000, of which Rs. 86,000 round is for the Cis-Jhelum riverain and Rs. 64,000 for the Khushab Tahsil. In the latter the new assessments were received "with acclamation," while in the former the new fixed assessment is regarded as lenient though the enhanced burden on canal lands is fully appreciated and in fact regarded as severe, especially by the private-canal owners who have also to pay a substantially enhanced royalty. There can however be no doubt whatever that in the past canal irrigated cultivation has been treated with remarkable leniency while as a land revenue demand the enhanced water-advantage (khush haisiyati) rate of Re. 1 per acre is as compared with the estimated half-net assets strictly moderate. It is however very necessary, with reference to Mr. Leigh's remarks in paragraph 48 of the report, that this rate should, as intended by the orders of Government, be assessed on matured and not on sown areas, field to field allowances for kharaba being given on the usual system. The Commissioner has rightly laid stress on this point in paragraph 10 of his review. The total enhancement in fixed assessment is

Rs. 1,06,000 round and of this approximately Rs. 44,000 or 41 per cent. including exemptions for new wells, has been deferred. Except in the Thal Circle of Khushab progressive enhancements will be imposed at 5 years' intervals under the usual 33 per cent. rule. In that circle the initial enhancement is one of 78 per cent. and the further deferred assessments will be imposed in equal amounts at similar intervals.

8. The important subject of the distribution of the sanctioned assessments, both as between estates and also over-holdings, has been fully treated in Chapter V of the report. Much care and attention was evidently devoted to this vitally important matter by Mr. Leigh and the Financial Commissioner has no doubt that the result has been very satisfactory.

9. The question of the enhancement of the royalty rate payable by the canal owners and first assessed in Sir James Wilson's settlement at 4 annas per acre of matured crops was one of considerable importance. The rate is the equivalent of the water due which may be levied under Section 8 of the Minor Canals Act. For water supplied from these canals to lands other than those owned by themselves the canal owners take one-fourth of the produce as the price of the water. Elaborate calculations for such lands, as well as for the proprietary lands of the canal owners themselves, showed that their net profits from the use of the water of the Jhelum were on the average not less than Rs. 3-8 0 per acre of crop irrigated and matured. It was decided therefore to raise the royalty rate on crops to 12 annas per acre matured, the former rate of 4 annas being however retained for grass. The increased rate gave an estimated future average demand for royalty of Rs. 23,000 or some Rs. 15,000 in excess of that collected previously. The large enhancement involved caused considerable dissatisfaction among the canal owners and ultimately the Punjab Government in February 1917 decided to moderate it by reducing the new rate to 8 annas per acre for 5 years from the date of imposition of the new assessment, the full rate to be collected on the expiry of that period.

10. In Chapter III of the report Mr. Leigh has dealt very fully with the subject of the revision of the record-of-rights.

The record-of-rights.
Out of the 420 estates involved 69, comprising the bed of the Jhelum, the whole of the Thal and a portion of the Mohar Circle, were completely remeasured; in 311 the existing maps were corrected and in 40 which were partially subject to fluvial action a portion only of the area was remeasured, for the remainder map correction being done. For the latter operation the specially abbreviated method used in Gujerat and Lahore, which has now been definitely abandoned, was adopted. The Financial Commissioner has nothing to add to the remarks which have been made about this method in the reviews of the Final Settlement Reports of those two districts. Experience in Shahpur supports the conclusion that the method is one which promotes neither accuracy nor speed. The Settlement Officer, Mr. Fagan is confident, did the best that was possible under the circumstances though his account of the new records in the corrected villages is not reassuring. In the completely remeasured estates on the other hand matters have been different and the needful decree of accuracy has no doubt been secured. The rights in undivided waste in the Thal generally, in Mianwali and Muzaffargarh no less than in Khushab, are vague and await definite decision, a fact which was clearly impressed on Mr. Fagan in a tour across the tract last winter in connection with the projected Sind-Sagar Canal, but the Settlement Officer has taken steps to include in his records materials which will facilitate a decision when disputes reach the Civil Courts, as they will doubtless do in the not distant future. With the assistance of the Survey Department the important subject of riverain boundaries has received due attention; while much trouble was taken to correct and bring up-to-date the complicated irrigation rights in hill streams in the Khushab Tahsil. For the number and kind of estates involved the mutation work tabulated in paragraph 32 as decided in the course of settlement was heavy, while there was a good deal of miscellaneous case work includ-

ing important and complicated partition cases from Khushab. Measurement and record work in each tahsil occupied slightly more than two years except in parts of Khushab where it lasted nearly three years. Having regard to the not very liberal establishment and other provision allowed for the settlement and the unsuitable system of map correction prescribed the result is, Mr. Fagan thinks, creditable to the Settlement Officer and his staff.

11. A revised set of alluvion and diluvion rules has been sanctioned
Miscellaneous matters. which follow generally the model of those approved for the Sialkot District. Their application

will require the careful attention of the Collector and of the Revenue Assistant. The rules relating to assessment of water-advantage rate reproduced in Appendices III and IV have been altered by the Financial Commissioner prior to approval in the direction of greater simplicity and the necessary correction slips have been added. The sanctioned scheme for working suspensions and remissions of land revenue contained in Appendix VI will demand careful study and attention from the Revenue Officer concerned, more especially in the case of the highly insecure Thal and Mohar Circles of the Khushab Tahsil. Some small additions have been made to the strength of the kanungo and patwaris' establishment of the tahsil. The average number of patwaris per field Kanungo in the three tahsils concerned is not more than the provincial average. The Zaildari system with graded Zaildars and Sufaidposhi zamindars has been extended to the Shahpur and Khushab Tahsils and now prevails throughout the whole of the Shahpur District. Certain proposals contained in Mr. Leigh's report on the Khushab rakhhs to which he refers in paragraph 76 have been submitted to Government and the case is still pending. All other cases of leased lands except that of Shahzadpur have been disposed of under the orders either of Government or of the Financial Commissioner since the report was written. The one remaining case will, it is anticipated be decided shortly. It is to be hoped that the matters specified in paragraph 77 will receive the careful attention of future Deputy Commissioners and their assistants.

12. As already noticed provision has been made for the introduction of fluctuating assessments into the three riverain circles in case this step should be necessitated by

Term of settlement. future deterioration. The fact has, Mr. Fagan thinks, an important bearing on the questions of the term of settlement in the Cis-Jhelum portion of the tract under settlement. There is, the Financial Commissioner thinks, no great prospect of any marked development in that portion, more especially as it is economically overshadowed by the adjacent Jhelum Colony. In the latter the current term of settlement has been provisionally fixed to end with kharif 1921 but the question is to be reconsidered in 1919. It is however clear, Mr. Fagan thinks, that the colony and the tract under settlement cannot be treated on the same footing for the purpose under consideration. For the Cis-Jhelum portion of the tract dealt with in Mr. Leigh's report the Financial Commissioner would, under the circumstances, recommend in agreement with the Commissioner a term of 30 years. In the Khushab Tahsil conditions are markedly different owing to the probable construction of the Sind-Sagar Canal and the comparatively rapid development which the Thal is undergoing, where also the new assessment is very lenient. On the whole then the Financial Commissioner would fix the term of settlement for the Khushab Tahsil at 20 years subject to the condition that the settlement will be open to the revision in any estate on the earlier introduction of irrigation from the Sind-Sagar Canal. It would be possible to give the Hill and Jhelum Circles of the tahsil a 30 years' term subject in the case of the latter to the same condition, but different terms in different parts of the same tahsil should, the Financial Commissioner thinks, be avoided if possible while at the same time it is by no means improbable that these two circles may be adversely affected by the introduction of perennial irrigation into the adjacent Thal and Mohar Circles.

13. Settlement operations began in November 1911 and were terminated in June 1916, thus lasting just over 4½ years.
Preparation and cost of settlement. The subsidiary matters referred to in paragraph 1

above helped to prolong the settlement and the issue of orders on the Bhera-Shahpur Assessment Report had to be deferred for 2½ years, from October 1913 to February 1916, owing to the abortive negotiations which were carried on relative to the private Inundation Canals and the now abandoned Shahpur Branch of the Lower Jhelum Canal. The total expenditure incurred was approximately Rs. 2,37,000 which will be recouped in two years by the initial enhancement in the annual demand inclusive of royalty. Considering the special difficulties of his task and the original paucity of the staff allowed the above results are, the Financial Commissioner thinks, very creditable to the Settlement Officer.

**14. The Financial Commissioner fully concurs in the Commissioner's
Notices of officers.**

appreciation of the good work done by Mr. Leigh. Though initially handicapped in some degree by inexperience he has carried the settlement to a successful conclusion in spite of not a few difficulties arising from the conditions to be dealt with, paucity of staff and an unsuitable method of map correction. His work has been characterized throughout by marked ability and by the most minute and unremitting industry; indeed his proposals would on more than one occasion have lent themselves to clearer and more rapid treatment had his presentation of details been less copious. The final report is a carefully written and creditable piece of work. The officers favourably mentioned by Mr. Leigh are deserving of commendation. Colonel Popham Young's incisive review, which has been written under great pressure of work, has been of much assistance to Mr. Fagan.

I have the honour to be,

SIR,

Your most obedient Servant,

V. CONNOLLY,

Senior Secretary to the Financial Commissioners, Punjab.

Commissioner's Review of Mr. Leigh's Final Settlement Report.

MR. LEIGH'S FINAL SETTLEMENT REPORT deals with the Khushab Tahsil of the Shahpur District, and with that strip of land lying along the Jhelum river and traversing the district from north-east to south-west which, being outside the irrigation limits of the Lower Jhelum Canal, has continued to carry the fixed assessments imposed by Mr. (now Sir James) Wilson at the second Regular Settlement. Portions of the three tahsils of Sargodha, Bhera and Shahpur, bordering the Jhelum river, have come under re-assessment. These present the usual riverain characteristics. In the Khushab Tahsil we have ■ block of the Salt Range, a sub-montane area depending largely for its cultivation on drainage from the hills, a great stretch of sandy waste (the Thal) and ■ strip of the Jhelum Valley lying to the west of that river.

2. In the assessment circles which abut on the Jhelum river there is land depending for surface moisture on river floods, which, though capricious, sometimes erosive and occasionally destructive through the agency of sand deposits, can on the whole be relied upon both to fertilise the soil and to secure the crop. A low river naturally means the temporary contraction of the cultivated area. The natural tendency of the river to spill its banks is promoted by the construction of a series of inundation canals, mostly in the Bhera and Shahpur Tahsils. The water-table is shallow, and wells are cheap and consequently numerous. These sometimes irrigate land lying beyond the direct influence of the river and the canals, and sometimes supplement the moisture derived from floods or from canal irrigation. Further west cultivation in the Salt Range, in the tract beneath the hills, where the stiff soil requires an abundance of water, and in the sandy Thal, where a little water goes a long way, depends upon a rainfall which may generally be relied on to be something below requirement. The averages detailed in paragraph 4 of Mr. Leigh's report would mean perhaps a three-quarter crop in the Jhelum Valley, the Salt Range, and the sub-montane Mohar Circle. It would mean ■ very light crop indeed in the Thal. The maximum would suffice for humper crops, and, after raising the hope of these, may be relied upon to destroy the realisation by excessive floods, by promoting the growth of weeds, by preventing timely ploughings and by laying the farmer low with malaria. In such times, however, the Thal may be expected to be exceedingly prosperous. The minimum rainfall figures quoted by Mr. Leigh mean famine conditions in the Thal and Mohar, and a fight in the Hill Circle and in the riverain for the maintenance of the lives of plough and well cattle.

Mr. Leigh is, therefore, justified in claiming insecurity for the tract settled by him. At the same time the wind has been duly tempered, and Revenue Officers need not feel extraordinarily anxious regarding the fate of the shorn lamb. The Thal folk have not depended on agriculture in the past, and they know how to save a sufficient stock of their sheep and camels for recuperative purposes, even in long periods of drought. The wealth which now accrues to them in years of good gram cultivation will suffice to keep them far more prosperous than they ever dreamed of being, and the revenue in this assessment circle is, perhaps, a smaller fraction of the net assets than in any other circle in the Punjab. In the Jhelum Valley hard times will not mean more than meagre fare for men and cattle, unremitting toil on wells, and ■ certain migration of labour to the irrigated colony next door. In the Salt Range the intelligent activity of the people will always enable them to wrest something from the soil, whilst the Government rakhis will help to preserve their cattle, and service in the Army will supplement the resources of many households. The Mohar Circle, beneath the hills, is the one in which the people will be hardest hit by prolonged droughts, and here, as in the past, the watchful eye of the Collector and elasticity in the revenue administration will be necessary.

3. In the matter of Railway communications the tract is well served,

The development of the tract present and prospective. with the exception of the Thal and the Salt Range. The latter must always depend upon its rough roadways which are fairly adequate.

What developments there may be in the Thal if, and when, the Indus Canal is constructed, it is impossible to say. At present camel transport meets the requirements of the situation. As regards population it may be said that the decrease, of which Mr. Leigh has explained the reasons in paragraph 6 of his report, has led on the whole to a mitigation of the evils of overcrowding, though from the point of view of large landlords the shortage, and resultant expense, of labour gives occasion for lament. The increase in the Thal reflects the conditions of healthy development which there maintains, and with the advent of the Indus Canal there will be infinite room for expansion. In the Salt Range, as Mr. Leigh has indicated, Military service, for which the people have a special aptitude, should permit of the maintenance of a standard of comfort which is satisfactorily high, and even a dandyism which is pleasant to see. The young blood of the Salt Range is a person for whom, in spite of somewhat reckless amours leading to feuds and affrays which are deplorable, we all find kindly toleration. There has, on the whole, been an expause of cultivation since the last settlement, but the bulk of this is in the sandy tracts where gram cultivation has appeared as a novelty. In the Thal, following on the partition of estates, there will, no doubt, be further expansion. In the Jhelum Valley none can be expected.

4. The great fluctuations in areas sown and successfully cropped (para-

Changes likely to take place in the future. graph 8 of the Report) are but the corollary of the conditions referred to in paragraph 2 above.

It is only in those portions of the Mohar and

Thal Circles of the Khushab Tahsil to which irrigation from the Indus Canal may be extended that any radical alteration of existing conditions can be foreseen. We must, therefore, hold that the Salt Range Circle, a large part of the Mohar Circle and the Jhelum Valley Circles in all tahsils are on existing lines fully developed, and that any material increase of agricultural resources in these tracts can only result from a further rise in prices, or from improved methods of cultivation. Whatever advance may be made in India within the next few decades in the latter connection, it is safe to assume that the somewhat feckless cultivators of the riverain tracts will not lead the way. We have to contemplate, on the other hand, the possibility of considerable deterioration in the area lying between the irrigation limits of the Lower Jhelum Canal and the Jhelum river. The canal water is finding its way back into the river and conditions are in every way favourable for waterlogging. The problem will probably be tackled as it arises by our skilled Irrigation Engineers, who are already devoting much energy to this question in other parts of the Punjab where conditions are similar and the evil somewhat more advanced. It cannot, however, be anticipated that we shall succeed in preventing considerable trouble and dislocation. It will be wise, therefore, to assume that during the period of Mr. Leigh's Settlement, whatever this may be, necessity for revision in the interests of the zamindars may arise.

5. Mr. Leigh has in paragraph 3 (b) of his report made a passing

The Shahpur Branch Scheme. reference to the Shahpur Branch Scheme and to

the attitude thereto of the Inundation Canal

owners. The literature which exists on this subject is voluminous, and no résumé of the controversies which arose, and the series of abortive negotiations which were entered into, can be attempted here. It may be useful, however, to place on record in this review the fact that calculations were made of the profits of the canal owners from their water-rates and from the application of water through their own canals on to their own lands prior to the construction of the Upper Jhelum Canal, which these owners are precluded from challenging hereafter by the attitude they adopted when I entered into negotiations with them for the acquisition of their rights. At that time a definite assertion by them that Mr. Leigh had under-estimated their profits as canal owners, would have amounted to an admission that Mr. Leigh's proposed assessments

of the khushhaisiyati due on account of irrigational benefits not covered by water-rates and of the royalty for which they are liable under the Minor Canals Act were too low. In this dilemma the canal owners preferred not to accept the compensation for the suppression of inundation irrigation which on Mr. Leigh's figures was demonstrably liberal, and maintained an attitude of cautious reserve regarding the equity of the assessments. They had, in regard to these assessments, in my opinion, some legitimate cause for complaint, in that the increments due from them, in land revenue, khushhaisiyati and royalty, were very heavy. This was due to past leniency and not to present severity, but none the less involved some hardship. In recognition of this fact the Punjab Government passed orders postponing the enhancement of the royalty to the full rate of Re. 0-12-0 for five years. The record of the whole case will show that the Punjab Government, which was naturally anxious, after spending Rs. 8,00,000 on the Shahpur Branch, not to allow this incomplete work to stand as a monument of miscalculation and misapprehension (such monuments are happily few in the Punjab where irrigation works are concerned), made an honest endeavour to arrive at a settlement which would ensure the protection of those areas dependent on the inundation canals and safeguard the canal owners, should the opening of the Upper Jhelum Canal lead to any serious dislocation of the inundation canal system. The offer which I tentatively made on behalf of the Punjab Government would have burdened the Shahpur Branch Scheme with a capital expenditure on which not more than a bare 4 per cent. profit was discernible. This offer the canal owners preferred not to accept. Future administrations will not, I think, be prepared to re-open the question unless and until it is demonstrated beyond all question that the permanent irrigation schemes of Government have been solely responsible for a material reduction in the profits of the Inundation canal owners. Such demonstration will be difficult, seeing that the present year has triumphantly vindicated the assertion of Canal Engineers that their operations count for infinitesimally little in comparison with meteorological phenomena.

6. The remaining details having reference to the general circumstances

Certain details revealing the general circumstances of the tracts of country which have been settled together, and of which the circumstances are so diverse that generalisations are difficult, dealt

with in Chapter I of Mr. Leigh's Report, show that tenants can well hold their own (a state of affairs which owners, who welcome an abundance of cheap and starveling labour, deprecate); that the Land Alienation Act has been particularly beneficial in its operation; that land values are high and alone establish the moderation of the assessments; that military service as yet materially enhances the resources of only a small section of the community—a factor which our recent efforts to promote recruitment will, perhaps, completely change to the great benefit of the people; that live-stock is a very valuable asset, especially in the Thal; and that the fairly high standard of comfort which already exists may be expected to improve with thrift, to which a desirable impetus will, it is hoped, be given by the co-operative credit movement.

7. The conclusions to be drawn from the facts stated in Mr. Leigh's

Conclusions as to the term of settlement which would be appropriate. first chapter, and somewhat sketchily reviewed above, are, I take it, that in the Khushab-Thal

a settlement for more than 20 years would be wholly inappropriate; that the Salt Range people might well be left alone to reap the fruits of their industry and to benefit from any further increase in the values of agricultural produce for a term of 30 years; that the same would apply to the Mohar Circle were it not for the fact that the construction of the Indus Canal may radically change the circumstances of a portion of this circle; and that in the Jhelum Valley a re-settlement in less than 30 years will hardly be justifiable in the interests of the State, seeing that (if prices, already at a high level, be left out of account) no marked development in the prosperity of the people can be anticipated unless they adopt methods of intensive agriculture, to the benefits of which they themselves will be reasonably entitled.

8. Nothing is to be gained by my recapitulating the fiscal history of

Fiscal history. the settled tracts detailed in Mr. Leigh's second chapter. A few points emerge which have a

material bearing on the questions concerning which we want to form clear conceptions when dealing with a final settlement report. Mr. Wilson's assessment was by way of being a fairly full one. The Khushab riverain had theretofore carried a higher assessment, relative to its assets, than had Bhera and Shahpur. The levelling up process involved considerable enhancements in these two last tahsils. Consequently a portion of the demand was deferred, and this for some reason, for which Mr. Leigh has failed to find justification, was never imposed. Mr. Leigh, therefore, found the same conditions of inequality, in which word a syllable may be dropped, seeing that, to the human, conditions in which one's neighbour enjoys things denied to oneself for no logical reason spell inequity. The levelling up process has been continued at the present settlement, but is, perhaps, not yet complete. Mr. Wilson's Settlement has, as might be expected in the case of the expert handiwork of that distinguished officer, worked well. The remissions in the Khushab Tahsil have not been inconsiderable. The scanty and precarious rainfall in that tahsil is bound to induce conditions which lead to arrears and to ultimate remissions. In my review of the Khushab Tahsil assessment report I dealt with the remission figures for the Mohar Circle in some detail. I essayed to prove that even in this circle had the people paid only that share of the produce actually accruing to them, which Mr. Wilson's assessment sought to take, they would have paid a great deal more, instead of appreciably less, than his cash demand. The moral is that in tracts where climatic caprices must lead to periods of agricultural depression, the zamindars have it 'both ways' unless we formulate a fairly stiff assessment. The tendency is to keep rates low because conditions are uncertain, and then to remit because the evil already discounted falls upon the people. In the Thal assessment which has been sanctioned I can but feel that a moderation has been shown which makes a little local Bengal of this quondam desert. The proportion of their net assets which Thal endeavours will contribute to the State during the next 20 years may well excite the envy of their neighbours, and yet it is more than likely that impressed by the leanness of some of the bad seasons which will certainly ensue, the Collector will find it difficult to harden his heart and make collections in full.

9. In chapter III of his report Mr. Leigh has dealt with the revision of the records in such manner that comment and exposition would both be superfluous. Here, as in the Gujarat District, an endeavour was made to resettle the district without a full staff and by abbreviating the usual procedure in connection with record making. The experiment was not a success and saved neither time nor money in the long run.

10. Mr. Leigh's re-assessment has resulted in an initial fixed demand of Rs. 5,17,711, which gives but a 13 per cent. increase on the old fixed demand of Rs. 4,55,441. The postponed demand at fixed rates brings the total up to Rs. 5,61,522. The increase will then be 23 per cent. The fluctuating demand of the past averaged Rs. 38,115. The estimated realizations of the revenue which will fluctuate with the areas successfully matured with the aid of canal water is Rs. 82,000. An addition of Rs. 16,000 per annum will accrue to Government on account of royalty, charged on water used by private canal owners, when the full rate of Re. 0-12-0 per acre of matured crop is imposed. Thus the demand has been raised at the outset by 22 per cent. The increment will be 30 per cent. when deferred revenues are taken. Private canal owners will pay an additional Rs. 16,000 in respect of the profits made by them from the use and the sale of the water of the Jhelum river.

When it is noted that the effective rise in prices since the district was last assessed cannot be placed at less than 35 per cent., the moderation of the demand hardly requires further proof. No critic could, I think, after carefully reviewing the figures which have been presented and discussed in the various assessment reports and reviews thereon, honestly challenge the moderation of the half-net-assets estimates accepted by Government, and of the theoretical maxima demands which could be deduced therefrom. Of these we are but taking, and that only by instalments, 56 per cent. in the Bhera Tahsil, 58 per

■

cent. in the Shahpur and Sargodha Tahsils, and 55 per cent. in Khushab. Within the Khushab Tahsil these percentages are—

Jhelum Circle	...	...	...	...	64
Thal Circle	...	...	...	...	44
Mohar Circle	...	...	...	...	55
Hill Circle	...	...	...	...	53

As a result of the re-assessment an additional revenue has been secured of Rs. 1,22,000 per annum which will rise to about Rs. 1,66,000 per annum. The cost of settlement (*vide* Chapter VI, paragraph 63) has been under Rs. 2,50,000. From the point of view of Government this is satisfactory; and the scales may be said to have been held evenly, with a slight dip in favour of the zamindars owing to the weight of the sympathy which was put into their side of the balance.

A point to which Mr. Leigh has made reference in paragraph 48 of his report should not be lost sight of. His fluctuating demand rates were devised for matured crops. If, owing to the application of principles by canal assessing officers which may be suitable for water-rate assessments, full allowance is not given for crop failures, the khushhaisiyati demand will be higher than Mr. Leigh contemplated, and consequently unfair to the zamindar.

11. In the all important matter of the distribution of the demands, Distribution of the demand. sanctioned after a review of the grouped statistics and the broad generalisations of the assessment reports, Mr. Leigh was fortunate in being able to work on the basis of Sir James Wilson's careful distribution at the last settlement. It may, I think, be confidently said that the burden has been adjusted as between estate and estate and as between holding and holding, with scrupulous equity. There will, of course, always be slight anomalies requiring future adjustment.

12. I have already indicated that there will in, my opinion, be no Suggestion as to term of settlement. occasion, from the Government point of view, for a re-settlement of the Hill Circle and the reverain circles in the Bhera, Shahpur and Khushab Tahsils, in less than 30 years. It is impossible to advise a longer term of settlement than 20 years for the Mohar and Thal Circles in the Khushab Tahsil. It may be advisable to overhaul the records and readjust the demand in the Jhelum Valley Circles in 20 years, and for this reason Government may think fit to announce a 20 years' term for the whole tract covered by Mr. Leigh's report.

The arrangements for the collection of the different instalments of the demand proposed in paragraph 64 of Mr. Leigh's report may be approved.

13. I have written this review amongst such constant interruptions that An apology and an appreciation. I am afraid it may not prove very helpful. I do not feel that I should be justified in retaining the report longer, in order to deal with it more adequately. Mr. Leigh has, moreover, placed all material facts on record with a graceful lucidity which renders any elaborate exposition of his theme by a reviewer unnecessary.

The matters requiring attention by future Collectors of the District have been detailed in paragraph 77 of his report. This is a most valuable summary, and I am instructing the Deputy Commissioner of Shahpur that a note should be made in his office that whenever a new officer assumes charge of the Shahpur District his attention should be drawn to this paragraph of the final Settlement Report.

In reviewing Mr. Leigh's work since the commencement of the settlement, I am, without endorsing his own over modest description of his initial equipment for the task (paragraph 79), reminded of a remark which in the dim past was used for the conveyance of some important principle to the intelligence of my contemporaries "*vires acquirit eundo*". His last assessment report added to the literary ability of his first effort the qualities of grasp and clarity and his final report appears to me to be an admirable statement of settlement processes and conclusions. His work amongst the people has always been characterised by receptiveness and sympathy.

F. POPHAM YOUNG, LIBUT.-COL.,

2nd November 1917.

Commissioner, Rawalpindi Division.

**Final Report of the Third Regular Settlement of
the portion of Shahpur District still paying
Fixed Assessment 1911-16.**

CHAPTER I.—THE DISTRICT.

1. This report is concerned with that portion of the Shahpur District which is still subject to a fixed assessment, the remainder having already been assessed to fluctuating rates by Mr. G. D. Rudkin : the position and shape of this tract can be seen from the map attached to the report. It comprises the Jhelum river valley and the whole of the Khushab Tahsil, and is differentiated from the area bordering it on the south and east by the fact that it is outside the limits of perennial irrigation from the Lower Jhelum Canal. It measures 3,119 square miles, of which only 860 are cultivated, and comprises 430 estates assessed to land revenue, besides Reserved Forests.

2. There are four tahsils in the district, and each of them has come under settlement to some extent—Khushab wholly, Bhera and Shahpur partially and Sargodha very modestly : the map makes the position clear. The main features of the country side may be roughly summarised thus :—in Bhera, Sargodha and northern end of Shahpur, there is a narrow belt of upland waste dividing the Lower Jhelum Colony from the river valley, which is skirted by a well-marked bank, the Danda. Below this, there is a continuous strip dependent in the main on inundation canals, but largely helped by wells, for the most part brackish. Nearer the river, the wells become more numerous and sweeter, and extend to the very verge of the river, the margin of the well lands and the islands in the river bed are regularly flooded, and profit to the full by the fertilising properties of the Jhelum silt. On the Khushab side, the valley is much narrower, and there are comparatively few wells below the high bank. Above the bank the land is high-lying and unirrigated, except for a few wells, and one struggling canal. South of a line drawn due west from Khushab town, there is a vast expanse of sandy upland known as Thal, entirely dependent on rainfall, but admirably adapted to the cultivation of gram and the raising of sheep. North of this is a level plain of stiff clay, some of it very fertile, much of it saline and sterile. Between this and the Salt Range is a submontane tract of excellent soil, carefully embanked, and with luck watered by the countless torrents, large and small, that drain the southern slopes of the hills. The northern end of the district consists of the Salt Range itself, with its steep southern escarpment, and its many grooves and basins, all terraced and embanked in a most skilful way, and all very fertile, except in the extreme east.

3. It will be gathered from this description that in the river valley much of the success in cultivation depends on wells. In Bhera and Shahpur there are over 3,800 wells in use, all of the Persian-wheel type ; the depth to water varies from about 30 feet to 10 feet or even less, and averages about 15 feet ; the water-table has been rising steadily since settlement, especially since the opening of the Lower Jhelum Canal : each well irrigates about 25 acres, and costs from Rs. 300 to Rs. 800 to build : approximately the same conditions prevail in the Khushab-Jhelum Circle, in which about 600 wells irrigate on an average 20 acres apiece. In these circumstances well-sinking is easy and profitable, but if the rains fail, much of the crop has to be sacrificed to the cattle. In the hills there are 340 wells which irrigate only $2\frac{1}{2}$ acres each, but the class of cultivation is very high, and profits are considerable. Elsewhere wells are neither numerous nor important.

From near the eastern end of Bhera down to the Sulki Escape, 12 miles below Shahpur, a great deal of rather erratic irrigation is done by 3 Imperial, 1 Provincial

(b) Canals.

and 12 private inundation canals, and there is a small provincial canal in the eastern corner of Khushab. These canals ordinarily begin to flow when the river rises towards the end of March or in early April, and continue to do so regularly till about the end of June, after that they give a rather irregular supply up to the end of August or the beginning of September : the water of these canals is heavily charged with silt which is invaluable for the alkaline soil, but it arrives so unpunctually and spasmodically that cultivation is always rather a gamble, and there are reasons for apprehending that this defect may be intensified by the opening of the Upper Jhelum Canal. In 1900 it was decided to take time by the forelock and insure in advance against deterioration by constructing a kharif distributary of the Lower Jhelum Canal to irrigate all this tract ; the bed was dug, bridges and bungalows built and trees planted, at a cost of Rs. 8,00,000, but, owing to the private canal owners' shrewd defence of their own vested interests, this interesting and expensive embryo is still nascent. Below the Sulki Escape there is some irrigation from the kharif distributaries of the Lower Jhelum Canal, but here the soil is so stiff that the wheat crop is largely dependent on rainfall.

There are a few perennial streams in Khushab which give a very valuable but restricted supply to their fortunate possessors. The Jhelum annually enriches a belt

(c) Springs and floods. about 2 miles broad with its overflow, and the highest floods reach sometimes 10 or 12 miles inland in Bhera and Shahpur, along lines of depression. There was a famous flood in 1893, but this did much serious damage, and is taxed by the peasants with all sorts of evil bequests, notably the star thistle and the spread of alkaline salts.

In the hills and submontane tract more than 58,000 acres benefit by the water that flows off the slopes and is brought down by torrents. This water is most carefully

(d) Torrents. and skilfully caught up and passed from terrace to terrace by a system of dams, channels and embankments, arranged with minute care and kept up with constant toil. In the level plain beyond the submontane belt, the cultivated fields get water by means of long shallow drains which carry the water down from the non-absorbent saline patches.

4. Seeing that the canals and floods are alike dependent on the rise of the Jhelum, and that the torrents are dry except after rain on the hills, and further that

Rainfall. there are no less than 130,000 acres which get no water unless direct from heaven, it follows that the rainfall is all important. It is unfortunately both scanty and precarious, as the marginal figures will show ; detailed statistics

Raingauge.	Locality.	Maximum.	Minimum.	Average.
Bhors	N. E riverside...	20.58	8.11	16.28
Shahpur	Central riverside	25.42	8.27	15.93
Khushab	Ditto, ...	24.34	7.50	14.95
Sahiwal	S. W. riverside	20.73	4.55	10.87
Narpar	Tba!	20.71	4.50	11.17
Naushera	Central Hills ...	48.27	10.8	20.87
Sakkar	Western Hills...	45.2	6.50	23.66

age figures quoted represent with sufficient accuracy the relative aridity of the different localities,

5. The district is crossed by the Sind-Sagar and Jech-Doab branches of the North-Western Railway, both of which give direct communication with Lahore and Karachi, the former for the Khushab Tahsil, the latter for the canal-irrigated area. There is also a branch line linking Bhera with both of these at Malak.

are given in the Assessment Reports, with graphs to illustrate how the harvests, both irrigated and unirrigated, vary directly as the rainfall. The variations from village to village are scarcely less remarkable than those from year to year, and even in a village or year in which the total fall has been considerable, it may have come at the wrong time and been useless or even harmful for agriculture. But the average figures quoted represent with sufficient accuracy the relative aridity of the different localities,

wal junction, just outside the district, and there is a toy railway from the Daiwal Coal Mine to Dhak Station. There is a lively hope that the Raewind-Khushab Project will before long link up Khushab, Shahpur and Sargodha, and some talk of a light line from Bhera to Shahpur, but already communications by rail are very fair, and the hills and southern Thal are the only parts of the district whose exporters have far to go by road. There is a metalled road from Khushab Boat Bridge, through Shahpur to Sargodha, and a good unmetalled road all along the river valley from Gujrat to Jhang, passing through Miani, Bhera, Shahpur and Sahiwal. The hills are opened up by well-made roads from Golewali, Kund and Katha, which serve the stations of Gunjiyal, Khushab and Rajar, respectively. Sahiwal is linked to Sargodha and Sillanwali by inferior unmetalled roads, as are Bhera and Chak Ram Das to Bhalwal. The other roads in this tract are rather amateur affairs, but as there is practically no wheeled traffic this does not much matter. The river is still a useful highway for salt and other heavy merchandise, but not much grain is now carried by boat. The camel and the donkey are the beasts of transport.

There are markets at Miani, Bhera, Khushab and Sahiwal, while Jhawarian, Shahpur, Nurpur, Mitha Tiwana and Naushehra focus the trade of their immediate surroundings in the river valley, Thal and Hills. But the local centres find it hard to compete with the well-managed marts of Phulerwan, Bhalwal, Sargodha and Sillanwali, which are all colony towns on the Jech-Doab Railway. There can be no doubt but that facilities for the disposal of produce have multiplied greatly during the past 20 years, and the district is now quite well off, and likely to become more so.

6. During the period of settlement, the different tahsils have been very variously effected in the matter of population. In the opening decade there was a steady increase in all 3 tahsils, amounting to about 13 per cent. in the cis-Jhelum tract and 9 per cent. in Khushab. In the concluding decade, there was a serious drop in the river circles of all tahsils, mainly due to fever and plague, but also aggravated by the migration of owners, tenants, shopkeepers and menials to that land of promise, the Jhelum Colony. As a result, these three circles show between them a decrease of 4 per cent. In the uplands of Khushab the people have continued to multiply, especially in the Thal, but it is only in the Hill Circle that there is any considerable pressure of population :—

	1891.	1901.	1911.
Bhera	81,143	91,586	72,500
Shahpur	111,877	127,822	111,058
Khushab	150,090	163,940	175,517

Jhelum tract and 9 per cent. in Khushab. In the concluding decade, there was a serious drop in the river circles of all tahsils, mainly due to fever and plague, but also aggravated by the migration of owners, tenants, shopkeepers and menials to that land of promise, the Jhelum Colony. As a result, these three circles show between them a decrease of 4 per cent. In the uplands of Khushab the people have continued to multiply, especially in the Thal, but it is only in the Hill Circle that there is any considerable pressure of population :—

	Bhera.	Shahpur.	Khushab.	DETAIL BY CIRCLES FOR KHUSHAB.			
				Jhelum.	Thal.	Mohar.	Hills.
Total increase or decrease per cent. since settlement.	- 10	- 1	+ 17	+ 1½	+ 54	+ 14	+ 28
Pressure per square mile of cultivation.	558	416	374	515	212	342	557

These figures indicate that in Bhera, the fall in population has been of advantage to the survivors who are even now rather uncomfortably crowded; in Shahpur and the Khushab riverain the present position is not unsatisfactory, in the Hill Circle the peasants will have to take to military service in increasing numbers if they wish to maintain their standards of living, in the remainder of the tahsil there is still more than enough room for all.

7. The actual development in Bhera and Shahpur of the tract under cultivation. settlement is rather obscured by the fact that in several villages there are considerable areas perennially irrigated by the Lower Jhelum Canal, which the owners are

cultivating at the expense of the weakest lands left outside irrigation limits.

Gain or loss per cent.	Bhera.	Shahpur.	Khushab.
Total cultivation	- 6	+ 2	+ 88
Irrigated area	+ 1	+ 5	+ 15
Sailab area	- 15	- 15	+ 11

The figures in the margin show the gain or loss per cent. in total cultivation, irrigated area and *sailab* area that took place between the introduction of the Second Revised Settlement and the completion of the new measurements, in those villages or portions of villages which have now been re-assessed; in the case of Khushab allowance has been made for a change in soil classification which will be explained below. If account is taken of the perennially irrigated portions of villages, then cultivation has expanded by 7 per cent. both in Bhera and in Shahpur, and irrigation by 16 and 12 per cent., respectively. In Bhera, and even more, in Shahpur, well irrigation has been to some extent supplanted by canal irrigation, and the use of wells and canals in conjunction has also become common, owing to the fact that over large tracts the spread of alkaline salts precludes the use of well water only. The most important development which has occurred since settlement has been in the sandy portions of the Jhelum, Thal and Mohar circles of Khushab, in which the peasants have only recently discovered that they can make enormous profits out of gram cultivation. The gram lands of these three circles have expanded by 19, 166, and 95 per cent., respectively, and considerable further development may be confidently anticipated.

8. The graphs attached to the assessment reports show at a glance the great variations in harvested area that occur between wet and dry years. The only circle that can claim any sort of uniformity is the Hill Circle of Khushab; the Thal and the Mohar are as insecure as it is possible for any country to be, and in the present year (1915-16) these two circles have had hardly any crop at all. Of the three river circles, that of Khushab is probably the most secure, being least dependent on inundation canals. In Bhera, the matured area varies between 90,000 and 60,000 acres, while in Shahpur the range is from nearly 170,000 to 96,000. On an average of 5 years selected so as to approximate to a normal cycle, the following percentages of the cultivated area were sown and matured in each tahsil :—

Percentage of total cultivated area.	Bhera.	Shahpur.	Khushab.	DETAIL BY CIRCLE FOR KHUSHAB.			
				Jhelum.	Thal.	Mohar.	Hill.
Area sown	90	87	86	84	80
Area matured	81	77	62	73	52

Double cropping only occurs on 13 per cent. of the Hill Circle, 9 per cent. of the Bhera Tahsil, 6 per cent. of the Shahpur and Khushab-Jhelum circles, and 2 per cent. in the Mohar; and in almost all cases the second crop is of an inferior kind.

The relative importance of the staple crops is as follows :—

	Bhera.	Shahpur.	Khushab.	DETAIL FOR KHUSHAB.			
				Jhelum.	Thal.	Mohar.	Hill.
Rice	2	1	...	...	...
Maize	...	2	...	1	5	...	...
Jowar	...	2	1.5	4	4	9	2.5
Bajra	...	8	3.5	22	4.5	11	30
Kharif pulses	7	1.5	23	2
Cotton	...	5.5	6	1	1.5	1.5	6.5
Fodder	...	5	7.5	2	1	1.5	1.5
Total kharif	...	27.5	20	42	23	55	46
Wheat	...	45.5	50	33.5	50	5	34
Gram and masar	...	13.5	16.5	17	14	44	16
Taramira	...	5.5	6	3.5	5	5	2
Turnips	...	1	2.5	1	4	...	...
Other fodder	1	5	...
Total rabi	...	72.5	80	58	77	45	54

It will be seen that in the riverain and hills, wheat is easily the most important crop; gram is all important in the Thal, and is largely grown in all the plains circles; *raja* is most important in the torrent lands. Cotton is scarcely grown in Khushab. The high percentage of turnips and fodder in Shahpur is noticeable as reflecting the extent to which the landlord is in the hands of his tenants in that tahsil.

9. Generally speaking, the river and the Hill circles consist of the holdings of small farmers owning less than they could economically cultivate, but, in the river circles at least, there are also a number of estates owned by single individuals or families, which bring up the average size of the holding per owner to a respectable figure. In Bhera, out of 104 estates, there are 37 in which the average cultivated holding is less than 5 acres, and 29 more in which it is less than 10. In Shahpur out of 165 estates, there are 31 in which the average is under 5 acres, and 39 more in which it is under 10 acres. In Khushab the average for the whole Jhelum Circle is only 8 acres cultivated per owner, and in the Hill Circle only 5 acres. In the Mohar and Thal there is plenty of scope for expansion.

The extent to which cultivation is done by the owners (including squatters who pay no rent), occupancy tenants and tenants-at-will is shown in the margin. Many of the tenants-at-will are of course mortgagors holding under their mortgagees, and many are fellow owners of the village, cultivating their neighbours' lands as a matter of mutual convenience, so that the figures underestimate the proportion held directly by the proprietary body: but even allowing for these considerations, it is clear that in Bhera and Shahpur the supply of tenants is an important factor in rural economics, and in both tahsils, especially the latter, some villages experience difficulty in finding enough men to till the soil. This is most noticeably the case in the neighbourhood of Sahiwal.

Percentage of cultivated area held by	Bhera.	Shahpur.	Khushab.
(a) Owners ...	84	27	■
(b) Occupancy tenants ...	4	2	2
(c) Tenants-at-will ...	62	71	86

Rents are almost entirely collected in kind; cash rents are paid on only 5 and 3 per cent. of the cultivated area in Bhera and Shahpur, respectively, and in Khushab they are negligible. Even where they are paid, they are of little use as a guide for assessment purposes, as there is almost always some special circumstance which makes the rent untypical. On irrigated lands, the share of the crop taken is almost invariably one-half, and on *nahri* and *sailab* soils a similar share of the straw is generally taken. But on the *nahri* lands, the net value of the landlord's profits depends largely on (a) whether the canal is owned by the State or privately, and (b) whether the water-dues are paid entirely by the owner, or shared by the tenant. Elaborate calculations of the amount of water-dues paid by tenants have been made in the assessment reports: the outstanding facts are these—(a) on the Government canals, practically all the matured crops pay Rs. 2-8-0 per acre, as occupier's rate, while on the private canals the canal owners take one-fourth of the crop as their water-dues, estimated to be worth on an average about Rs. 4-8-0 or more: (b) in Bhera, the general rule, is for the tenant to pay half the occupier's rate or *chaharam* and half the water advantage rate; in Shahpur the tenant generally pays either half of the occupier's rate or *chaharam*, or else the whole of the water advantage rate as far west as Jhawarian: to the west and south of that village as far south as the Sulki Escape the owner generally has to bear the entire charge both of *chaharam* or occupier's rate and of water-advantage rate, as also is the case in Khushab. On the *kharif* distributaries south of the Sulki Escape, the tenants generally pay half the occupier's rate.

On *barani* lands, the share taken varies from one-half, which is common on the best lands of the Hill Circle, to one-third, which is the normal rate for the gram lands of the Thal. The average rent on *barani* soils is about two-fifths.

There has not been a great amount of change in rents since settlement, but what there has been is in the direction of enhancement ; but this improvement has been largely discounted by the greater liberties which the tenants take in the matter of growing fodder for their own use.

10. The extent to which land has passed permanently or temporarily out of the hand of the owners may be seen from Alienations of land and land values. these figures, which show the percentages of cultivated area sold since settlement and mortgaged with possession.

Tahsil.	SALES.			MORTGAGES NOW EXISTING.		
	To Zamindars.	To others.	Total.	To Zamindars.	To others.	Total.
Bhera	5.5	5	10.5	13
Shahpur	3.5	2.5	6	12
Khushab	4	1.5	5.5	9.5

The effect of the Land Alienation Act was very marked ; before 1901, the money-lenders were rapidly ousting the agriculturists : since that date, not only has the flood been stemmed, but also there has been a notable recovery, redemptions regularly exceeding fresh mortgages. There is now no danger of the small farmer being supplanted by the man of business, and the recent inauguration of co-operative credit societies in the area under settlement gives new grounds for anticipating that mortgages will be redeemed with progressive acceleration.

For the purpose of deciding the normal values of land, statistics are

Class of soil.	Bhera.	Shahpur.	KRUSHAB.	
			Plains.	Hill.
Chahi	200	160	140	400
Nahri	120	120	90	460
Sailab	160	160	160	...
Barani	80	88	{ 150 80	{ 400 200
Banjar	50	88	{ 50 30	{ 100 50

somewhat uncertain guides, for a variety of reasons indicated in the assessment reports ; nor on the other hand, do I claim any sort of infallibility for my own cautious appraisements, but these I give for what they are worth, in rupees per acre. On the whole the value of land of all classes appears to have practically trebled during the course of the past settlement, and any land except the poorest can easily command a good price.

11. There has everywhere been an increase in the number of horned cattle, especially milch buffaloes : in the Thal Livestock.

buffaloes are 10 times as numerous as at settlement ; and other horned cattle $2\frac{1}{2}$ times ; sheep also have multiplied, the increase per cent. in the spacious Thal and Mohar circles being 72 and 66, respectively ; goats too have increased by 114 and 48 per cent. in these circles, but in the cis-Jhelum tahsils have diminished owing, no doubt, to increased ability to keep cows. But there is no denying that a dry year, such as that now ending (1915-16), thins out the ranks of the cattle very seriously, and if a cattle-census were held now, the numbers would be very different from those given in the assessment reports. Large numbers of cattle of all kinds have been sold practically for their hide-value, and many have unfortunately starved. Camels have not increased much except in the Thal, but are still very necessary for transport purposes. Horse flesh has, of course, received a great impetus from the introduction of the brood-mare tenure on the Lower Jhelum Canal.

I have made calculations of the profits from cattle in the assessment reports, but, as pointed out in the reviews of these reports, my computations

are probably rather optimistic, especially with regard to the profits made by the land-owning community. Even the soberest view however puts the net profits at Rs. 32,000 for Bhera, Rs. 52,000 for Shahpur, and Rs. 1,28,000 for Khushab.

12. Military service is not popular except with the Tiwanas, Awans, Janjuhas and Biloches of Khushab, but these tribes all enlist readily and provide excellent soldiers. Civil service is, except with the townsmen of Bhera, Miani, Sahiwal, Khushab and Girot, even less common. The total income from business pay and pensions is roughly estimated at nearly 5 lakhs of rupees in Bhera, 1½ lakhs in Shahpur, and over 8 lakhs in Khushab. Another source of wealth consists in the cultivation of squares in the Chenab, Jhelum and Montgomery colonies : of these, Khushab alone has 1,200 squares, while in Bhera and Shahpur, entirely apart from colony grants, there are respectively 16,000 and 12,000 acres of cultivated land owned by villages under assessment inside the limits of perennial irrigation. Emigration beyond the Punjab is rarely indulged in, but considerable numbers find work on the railway and the inundation canals which require constant clearance. Little is made by the sale of wood, and although grass is sold for large sums this, as a source of income to the inhabitants, is rather analogous to the classical instance of mutual laundry services.

13. Debt is seldom of a serious nature and, if the co-operative credit societies continue to multiply as they have done since the assessment reports were written, a great emancipation will soon take place. In 1912, the "Shadi Fund" craze caused considerable loss, and was even more deplorable on account of the suspicion it engendered in the peasants' minds against all evangelists of co-operation ; it is a matter for congratulation that these suspicions have been overcome in the cis-Jhelum and the Hills, and I believe that, as soon as the Registrar is in a position to finance new societies, great progress will be made in the Khushab plains. The general conditions of life are certainly improving by degrees, and in the Thal there has been a sudden change from a very primitive existence to decent comfort. Everywhere there are frequent evidences of a margin for expenditure on what once were luxuries. These will be noticed at length in the Gazetteer. At the present moment, we are all in rather low water ; the wheat and the irrigated gram were very disappointing in rabi 1915, and cotton was a drug in the market in the preceding harvest : there has been very little rain for a whole year, and the cattle are in a very bad way. Stocks of grain are low, prices high, and fodder is at a rupee a maund, even with the railway concession ; but one good fall of rain will make a world of difference, if only it comes soon.

CHAPTER II.—FISCAL HISTORY.

14. Before annexation the revenue was collected either directly by the Sikh Government or, more generally, by jagirdars ; thus, the Baloch Sardars of Sahiwal held in jagir their own taluqa and also Khushab ; Malik Fateh Khan, Tiwana, held the Mitha Tiwana and Nurpur taluqas ; Sardars Gurmuikh Singh, Lamba, held the Sun basin ; and so on for the bulk of the district. The collections were done by Kardars on a system of division, or more generally, appraisement of the produce, with the inevitable result that both the jagirdar and the smaller landowners suffered.

15. The First Summary Settlement was made in 1849 by Mr. Bowring, and was designed to bring in 20 per cent. less than the average of recent Sikh collections : in the riverain circles, as also in the Mohar and the Hills, the demand was found to have been pitched too high, and in 1851 and 1852 some reductions were made. In 1860, on the other hand, it was found possible to raise the demand in the Thal.

16. The First Regular settlement was carried out in the riverain by Mr. Gore Ouseley (1854—1860) and in the uplands of Khushab by Captain Davies (1866). It was found possible to take a small increase in the cis-Jhelum riverain, and in the Thal; in the Khushab riverain, Mohar, and Hills a further reduction was granted. It was generally admitted that the new demands were moderate and fair, and the names of both Settlement Officers (especially Mr. Ouseley) are still gratefully remembered.

I give below the results of this settlement: the main reason for the enhancement during the period of its currency is that much land was broken up in Government waste by lessees:—

Tahsil.	DEMAND OF FIRST REGULAR SETTLEMENT.	
	First year.	Last year.
	Rs.	Rs.
Bhera	60,547	69,048
Shahpur	97,200	1,16,861
Khushab	1,44,954	1,52,815

17. When Mr. (now Sir) James Wilson began to revise the regular Settlement in 1887, he discovered that great developments had taken place, especially in the cis-Jhelum riverain, where a large number of inundation canals had been dug. The method of assessing these canals adopted by him was to consider canal land as equal to rain land for purposes of fixed land revenue, and to take the land revenue assessment on the additional rents secured by owners of canal land in the form of a rate fluctuating with the matured area; this rate was known as "water-advantage rate" or *khush-haisiyati*; it amounted to 8 annas per acre of crop matured by flow irrigation, with half-rates for lift-irrigation and grass. Mr. Wilson estimated that it would bring in about Rs. 11,700 in Bhera, Rs. 20,000 in Shahpur, and Rs. 1,000 in Khushab. As a matter of fact, on an average of recent years, it has brought in Rs. 9,723 in Bhera, Rs. 27,383 in Shahpur, and Rs. 1,000 in Khushab.

Tahsil.	TOTAL SANCTIONED DEMAND.		Percentage of total sanctioned demand on half-net assets.	Increase per cent. on existing demand.	Initial demand fixed land-revenue and malikana.
	Fixed land-revenue and malikana.	Estimated water-advantage rate.			
	Rs.	Rs.			
Bhera	1,17,147	11,700	83	90	98,727
Shahpur	1,67,143	20,000	81	60	1,52,957
Khushab	1,97,000	1,000	84	30	1,95,823
Total ...	4,81,290	32,700	84	50	4,47,607

The new demand, as sanctioned for the villages with which this report is concerned, was Rs. 4,81,290 fixed, plus about Rs. 32,700 fluctuating; this was supposed to represent rather more than 80 per cent. of the half-net assets in each of the three tahsils, but in order to arrive at something like equality of pitch, it was necessary to enhance the existing demand in Bhera and Shahpur very much more than in Khushab. In those two tahsils, however, the effect of this sudden enhancement was modified by deferring part of the new

demand for a period of five years, and, in the usual way, a further sum was deferred in all tahsils, on account of remissions in favour of new wells. So the initial demand was considerably less than the sanctioned demand. When,

however, the time came to impose the deferred assessments, it was found necessary to allow Rs. 14,430 in Bhera and Rs. 2,800 in Shahpur to stand over indefinitely, while Rs. 400 in Shahpur were remitted. It is not altogether easy to see why these sums have never yet been imposed,

: Mr. Wilson knew his district extremely well, and was able to calculate the unusual precision and certainty: consequently, it was much more difficult for him, and for the Punjab Government, to justify to the Government of India an assessment lower than that which was actually sanctioned, since it could not be pleaded that a wide margin of possible error must be allowed for: at the same time, it was generally recognized that the demand was, in comparison with neighbouring districts settled about the same time, very full, and since it so happened that the harvests in which the enhanced demand might first have been imposed were unfavourable, the question was not pressed at all keenly.

Be that as it may, the result was that, after all sums deferred for a term of years had been either imposed or left outstanding, and all the well exemption certificates had expired, the demand (inclusive of the estimated water-advantage rate) was relatively lowest in Bhera and highest in Khushab, while the enhancement was lowest in Khushab and highest in Bhera; Shahpur in each case

SUM DEFERRED FOR A PERIOD OF FIVE YEARS.

Tahsil.	Deferred.	Subsequently imposed.	
		Rs.	Rs.
Bhera	16,925	395
Shahpur	8,945	5,745

but so far as I can judge, the reason was this : Mr. Wilson knew his district extremely well, and was able to calculate the unusual precision and certainty: consequently, it was much more difficult for him, and for the Punjab Government, to justify to the Government of India an assessment lower than that which was actually sanctioned, since it could not be pleaded that a wide margin of possible error must be allowed for: at the same time, it was generally recognized that the demand was, in comparison with neighbouring districts settled about the same time, very full, and since it so happened that the harvests in which the enhanced demand might first have been imposed were unfavourable, the question was not pressed at all keenly.

Fixed land-revenue and malikana actually imposed, plus estimated water-advantage rate.	Per cent. of half-net assets.	Increase per cent. on existing demand.		
			Rs.	
Bhera	74	71	
Shahpur	80	51	
Khushab	84	90	
Total	80	47	

occupied an intermediate position.

18. As for *tahsils*, so for villages, Mr. Wilson so assessed that the final demand might in each case take approximately the same proportion of the assets, though he

naturally aimed at taking a somewhat lower proportion in those estates in which the enhancement was to be greatest. But the effect of the failure to impose the deferred assessments was to leave these estates (already treated leniently) with an assessment which was almost nominal. That is to say, as a matter of actual working, the villages which had, with the aid of the inundation canals, expanded most rapidly between First and Second Settlements were at the end of the Second Settlement still paying a fixed assessment not greatly in excess of that imposed by Mr. Ouseley. It is also to be noticed that in the

Hill Circle of Khushab, Government sanctioned a demand 8½ per cent. less than that which Mr. Wilson considered they might fairly be called on to pay, owing to the fact that much of the circle's prosperity was due to the labour of the cultivators, a loyal and hardy body of men, who deserved lenient treatment.

Assessment circles.	Sanctioned demand.	Per cent. of half-net assets.	Increase per cent.
Jhelum	Rs. 61,000	87	42
Thal	12,000	80	20
Mohar	70,000	93	30
Hill	55,000	79	21

Apart from these special circumstances, Mr. Wilson's distribution of the demand over villages and holdings was admitted on all hands to have been most equitable.

19. Everywhere the new demand was collected with ease, except in so far

Working of the settlement.

in Khushab from 1898 to

Tahsil.	Amount remitted.
Bhera	Rs. 22,080
Shahpur	18,810
Khushab	1,66,167

"quasi-cyclic." Coercive processes have seldom been necessary; details will be found in the assessment reports. There can be no question but that Mr. Wilson's Settlement has worked very well.

20. The demand, for the last year during which the Second Regular Settlement was in force for both harvests was as shown in the margin: the

The existing demand.

Tahsil.	Year.	Fixed land-revenue.	Water-advantage rate.
Bhera	1914-15	Rs. 96,026	Rs. 12,519
Shahpur and Sargodha	1914-15	1,60,941	35,210
Khushab	1915-16	1,98,474	1,642
Total	...	4,55,441	49,371

assessment on portions of estates commanded by the Lower Jhelum Canal.

CHAPTER III.—REVISION OF THE RECORDS.

21. The scheme of settlement originally sanctioned contemplated the re-assessment of the Jhelum circles of *tahsils* Shahpur, Bhera and Khushab only. It had

been reported in connection with the forecast that the existing maps and records were fairly accurate, and so it was decided that a special revision of the record-of-rights was necessary, and that if quadrennial *jamabandis* for each village were prepared with special care, and the old maps brought up-to-date, the old standing record might stand. This procedure was followed in the Bhera, Shahpur and Sargodha tahsils. Meanwhile, however, it had been decided to re-assess the three upland circles of Khushab *Tahsil*, and since it was clear that a revised record would be necessary for them, and the new *jamabandis* of the cis-Jhelum circles were not wholly satisfactory, permission was obtained to carry out a special revision of the record for the whole of the Khushab *Tahsil*.*

22. For the correction of the old maps special rules were issued, applicable to Lahore and Gujrat, as well as to this district. They involved the use of the chain only in the case of fields which had been subdivided since settlement, other fields being shewn in the field book as "unaltered," and their areas copied from the old record. As the event proved, so many changes had taken place since settlement, and so many large tracts of waste had been broken up that this method afforded many of the difficulties of complete re-measurement, without its advantages.

In the bed of the Jhelum complete re-measurement was carried out on the basis of survey stations fixed and plotted by the riverain detachment of the Survey of India. The whole bed of the Jhelum in this district is now mapped upon a co-ordinated series of squared mapping sheets, and all along both banks at intervals

of about a mile or two miles *vis-à-vis* pairs of base squares have been demarcated with stone pillars.

A similar system was adopted in the Thal Circle and in that portion of the Mohar Circle which lies to the south of the Khushab-Bannu road. Here too the whole tract has been mapped on co-ordinated mapping sheets, and ■ number of recognizable survey stations have been set up and mapped.*

In villages which lay partly in the river-bed, but also had large areas above the bank, only the portions subject to alluvial action were re-measured, the maps of the remaining portion being corrected. But in these cases the whole external boundary of the estate was mapped on the co-ordinated series of mapping sheets.

Altogether 69 estates were completely re-measured, 311 were completely corrected, and 40 were partly re-measured and partly corrected.

In addition to village maps, large scale maps were made of suburban areas of more than 10 acres, included in town-sites since settlement, and the necessary records prepared.

23. It was part of the scheme of abbreviated procedure prescribed for this district to dispense with the preparation of *khataunis*. It was supposed that the *patwari* would have no difficulty in compiling his new *jamabandi* from a collation of the preceding *jamabandi*, the register of mutations and the crop-inspection register. So far as possible these orders were followed, and in 315 estates no *khataunis* were prepared, but it was found that it took just as long to prepare the *jamabandis* in this way as it would have taken to prepare *khataunis* and compile the *jamabandi* direct from them, and the difficulty of checking the new *jamabandis* was very much greater. In the Thal as a whole, and elsewhere wherever the preparation of *khataunis* was clearly desirable, the old-fashioned method was adopted, with a marked saving of time and trouble. Altogether *khataunis* were prepared for 105 estates. I take this opportunity of recording my opinion that in this part of the district, where changes in ownership and cultivation are always numerous, to dispense with *khataunis* will be found to lead to a waste of time and loss of accuracy. Incidentally it has the disadvantage of eliminating the *zamindar ka parcha*, and so tends to conceal mistakes until the announcement of the new distribution of demand, when corrections involve much inconvenience.

24. Many of the mapping sheets supplied by the Mufid-i-Am Press at the beginning of operations were found to be carelessly printed and very perishable. Representations to the Director of Land Records had the desired effect. But even on good mapping sheets, the work of correction in the majority of estates produced a map in which there were more corrected than uncorrected field boundaries, and the result would generally have puzzled a Civil Court greatly. Hence the Financial Commissioners ordered that of all maps made by correction ■ fair copy should be prepared showing only the existing field boundaries; this was done by a special staff at headquarters, by means of carbon-tracing, and these fair copies, which are quite neat and intelligible, will be produced whenever a Civil Court calls for the settlement map, and all certified copies will be prepared from them. The originals need only be referred to in cases of doubt.

The maps prepared on the sheets provided by the riverain detachment are for the most part in good condition and easily intelligible.

The colouring of maps was in the first instance done by the *patwaris* of each village, but their work was messy and lacked uniformity, so this task was soon made over to selected men at each tahsil, with good results.

*The co-ordinates of the riverain squares are not quite the same ■ those for the Thal and Mohar.

25. In addition to the fair copies of the corrected maps above described
Copies of the maps.
 the following copies of the field map have been made for each estate :—

- (1) a tracing on wax-cloth, coloured, and mounted on rollers, which is filed in a special cupboard in the tahsil, this must be brought up-to-date at each quadrennial attestation ;
- (2) a tracing on broad cloth, uncoloured, and kept by the *patwari* for his field work ;
- (3) tracings either on wax-cloth or on broad cloth, supplied to Irrigation officers, and other departments and local bodies, so far as required by them.

Besides these, copies of the field map on mapping sheets, squared and marked with all survey stations and lines were supplied to *patwaris* in the Thal, to enable them to make accurate measurements of new cultivation year by year, and to all *patwaris* who have to compile records of di-alluvion assessment.

26. Apparently no index-maps were filed at last settlement. These Index maps and other small scale maps. have now been prepared for all estates except Government rakhs, and have been attached to the bundle of field-maps of the estate. In the case of re-measured villages, these index-maps correctly reproduced the shape of the estate : in the case of corrected villages, their accuracy entirely depends on the extent of error made in square-laying or triangulation at last settlement, and this is often considerable.

The settlement mapper has combined these index maps into tahsil and district maps : the error in the case of corrected estates was adjusted by fitting each estate into a skeleton-map of trijunction pillars reproduced from the volumes supplied by the Survey of India, and then checking the result by comparison with the 1911-12 series of survey sheets on the scale of 1 inch = 1 mile, which, though they do not shew village boundaries and trijunction pillars, shew all sorts of recognizable natural features. The maps prepared in this way are—

- (1) a skeleton map of the district (scale 4 miles=1 inch) shewing natural features, roads, railways, main canals, village boundaries and large towns and villages : this was supplied to the Director of Land Records for reproduction on paper ;
- (2) a copy of the former, with the topographical number of each village inserted, and a bilingual list of villages arranged according to topographical number : this also was supplied to the Director of Land Records for reproduction on paper ;
- (3) a map of the district (scale 4 miles=1 inch) shewing natural features, communications, administrative divisions, rest-houses and canals ; statistical tables shewing the rainfall, revenue, population and the location of the leading public institutions and conveniences are printed on the margin and back of the map. This map has been sent to the Superintendent of the Calcutta Printing Office, for reproduction both on paper and on handkerchiefs ;
- (4) similar maps for each tahsil (scale 2 miles=1 inch) shewing the same information in greater detail, and also shewing village boundaries. These also have been sent to Calcutta for reproduction both on paper and on handkerchiefs ;
- (5) a series of three maps of the district (scale 8 miles=1 inch), as prescribed for the new edition of the Gazetteer ;
- (6) the maps attached to this report and the Assessment Report ;
- (7) small scale index-maps of each village on different scales have been bound up with the Abstract Village Note Books. I believe all these maps are sufficiently accurate for all ordinary purposes, and they will meet a long-felt want ;

27. In Bhera and Shahpur, Mr. Wilson's Standing Record still stands ;
 The record-of-rights, the recent settlement operations have brought it up-to-date by adding—

- (1) a revised genealogical-tree, including occupancy tenants : where this was of moderate size, it was inserted in a pocket attached to the binding of *jamabandi*; otherwise it has been filed separately in a stout cover ;
- (2) a preliminary proceeding quoting the notification sanctioning the revision of the assessment bound up with *jamabandi* ;
- (3) a revised *jamabandi* or list of holdings shewing the present state of ownership and cultivation, area, soil classification, irrigation, rent and demand, with an index of field numbers and owners;
- (4) a revised statement of revenue assignments and pensions ;
- (5) a revised statement of rights in wells ;
 (These two statements are bound up with the *jamabandi*.)
- (6) sanctioned mutations incorporated in this *jamabandi* : in the case of small estates these were bound up with the *jamabandi* : otherwise they have been separately bound in one or more volumes.
- (7) the orders of the Settlement Officer determining and distributing the new demand ; the original orders are on the *bachh* files, and a copy bound up with the *jamabandis*.
- (8) statements giving effect to these orders in detail for each holding (the *bachh* statements).

In the Khushab *Tahsil* the revised record-of-rights contains all these items, and in addition a revised Village Administration Paper has been bound up with the *jamabandi*, including a specially attested statement of the rights in hill torrents and other water for all villages in, and along the foot of, the hills. These Administration Papers were all attested by myself ; they are a repetition of those of last settlement, except in cases where there was a general agreement that the custom of the village had changed, or where a disputed point had been decided by a court of law. In the case of the rights in irrigation a separate map of the area affected by each torrent was prepared and coloured so as to shew what fields take water as of rights, and what fields take water by agreement or by force. These maps together with a list of all fields irrigated, and my orders determining (a) the new entry to be made in respect of each field in the *jamabandi* and (b) the exact wording of the new statement of rights in the village Administration Paper, have been separately filed in the District Record Room, as also have been the files containing my orders determining the wording of the remainder of the Village Administration Paper.

The revised record-of-rights in Khushab dates in each estate from the year in which the *jamabandi* was filed in the tahsil. As in several large estates it was impossible to complete and check the *jamabandi* within the year in which field measurements were made, the total areas for the tahsil added together will not agree with the sum of the areas recorded in the Village Note-books for any one year.

28. In the villages completely remeasured it is believed that the new maps and records are commendably accurate.
 Accuracy of the record.

In the Thal it was unfortunately necessary to leave rather vague the important question of rights in the village common, but an attempt was made to prepare the record in such a way that, whatever might be the ultimate decision of the Civil Courts as to the precise meaning of the record, it might at once appear how the principle adopted would work out in detail. Thus genealogical trees have been prepared for graziers as well as cultivators, where the former claim a share in the village waste, and it has been shewn what the measure of right for each man will be, according as the revenue shares paid at First or Second Regular Settlement are held to govern the case. In one other respect it is possible that the accuracy of the Thal maps may be questioned in future, and a word of explanation may be useful. I ordered that

the staff were not to attempt to make the new map tally in detail with the old : fields were to be mapped as they existed on the ground and not as the old map suggested that they ought to exist ; and orders were also issued to the effect that each owner should be allowed to select, out of the cultivation actually in his possession, an area equivalent to his recorded ownership, without attempting to make the new field agree exactly with the old field in shape. That is to say, it was adopted as a principle of measurement that the old maps were only to be followed to the extent of entitling each man to a certain area in a certain neighbourhood, and the new maps shew him as owning that area in some field actually in his possession, or (if he is not in his possession of any field in that neighbourhood) in the neighbouring waste. This procedure has been everywhere accepted as equitable, and has saved a vast amount of petty extortion, and probably not a few riots.

In the area for which the maps were only corrected, I am afraid the same degree of accuracy cannot be claimed. The orders received did not allow of any satisfactory testing of the correctness of the old map in fields alleged to be "unaltered." And where large areas had been partitioned between settlements, it was generally found that the partition map could not be made to agree with the fields on the ground. In fact the accuracy of the new map was *ex hypothesi* conditioned by that of the old map and the quadrennial supplementary maps, and these last were often clearly inaccurate. Also the supervising staff has from the outset been on the very margin of practicability, and the majority of the *Kanungos* had unusually extensive charges, so that there is reason to apprehend that inaccuracy has been enhanced rather than diminished. It can however, I think, be claimed that the new records are as accurate as the system and the strength of the staff permitted. But it will probably be absolutely necessary to have complete remeasurement everywhere at next settlement.

29. I took over charge as Assistant Settlement Officer on October 17th
Progress of work. 1911, there was no Settlement Officer or Extra

Assistant Settlement Officer, but the Deputy

Commissioner was expected to exercise general supervision, and his office was expected to do the work ordinarily done by the Settlement English and Vernacular Office and *nazarat*. I am much indebted to Mr. Wakefield and Major O'Brien, and to the members of their office, in having cheerfully accepted this addition to their duties ; but, as was to be expected, in so heavy a district, the Deputy Commissioner had little time to master and supervise so technical a business as a settlement. There was one Settlement *Tahsildar* for Bhera, Shalpur and part of Sargodha, and three Settlement *Naib-Tahsildars*. I could also count on a certain amount of assistance from the *Naib-Tahsildars* of Bhera and Shahpur. The rules received made it necessary to start field work with the *kharif* crop-inspection, so there was no time for me to organize my programme at leisure. The result may be summed up in the saying "More haste, less speed."*

Measurements in Bhera and the northern part of Shahpur were started on 6th November 1911, and were completed on 30th July 1912. In the southern part of Shahpur, the Khushab-Jhelum Circle, the Mohar and the Hills measurements were started in November 1912 and completed in September 1915. Progress in the riverain was conditioned by the receipt of plotted mapping-sheets from the riverain detachment, and in some cases these were not received in time to admit of the completion of measurements before the beginning of the flood-season. In the Mohar, where villages are very large, it was thought better to proceed somewhat slowly than to multiply the number of measuring parties beyond the *Kanungo's* power of supervision. In the Thal, the Survey Department were at work in the cold weather of 1912-13, and remeasurement started with the cold weather of 1913-14 and was completed by end of May 1914—a performance extremely creditable to all concerned.

In spite of every effort to keep the book-work abreast of the field work, it was impossible to finish both for each circle within a single season. The

* An Extra Settlement *Tahsildar* for Khushab was appointed in March 1913 and 3 additional *Naib-Tahsildar* were also entertained, one of them for 18 months only. In October 1913 I was promoted to Settlement Officer, but remained without an Assistant or Extra Assistant.

saving of time at the start due to the omission of *khataunis* involved a great loss of pace in the compilation and attestation of *jamabandis*. Consequently the last *jamabandis* of Bhera were not filled in the tahsil till 30th September 1913, the last of Shahpur were filed in December 1914, and the last of Khushab in December 1915. If I had had some experience of settlement work before I took charge, I might have probably saved some time, but, on the other hand, I should probably have asked for a considerable increase of staff.

The original programme sketched in the orders on the Forecast Report was as follows:—

Season 1911-12.—Maps to be corrected for the Bhera Tahsil and 60 estates of the Shahpur Tahsil: *jamabandis* to be filed by September 1912.

Season 1912-13.—Maps to be prepared for the remainder of Shahpur Tahsil and the Jhelum Circle of Khushab Tahsil: *jamabandis* to be filed by September 1913. The Assistant Settlement Officer to inspect the Bhera and Shahpur Tahsils, and submit his assessment report in April 1913.

Season 1913-14.—The Assistant Settlement Officer to inspect the Khushab-Jhelum Circle, and submit his report in April 1914. Presumably he was to have awaited orders on his reports, and announced and distributed the new demands, but the programme gave no time for this.

Actually the work was done as follows:—

Season 1911-12.—The map of Bhera and 135 villages of Shahpur corrected.

Season 1912-13.—The remaining maps of Shahpur completed and riverain remeasurements made for Bhera and Shahpur; as also 49 estates of the Khushab-Jhelum Circle, and 25 estates of the Hill and Mohar. The remaining records of Bhera and Shahpur filed except for 67 villages. The Bhera and Shahpur tahsils inspected, and assessment report submitted in August.

Season 1913-14.—The remaining maps of Khushab Tahsil completed, including the whole Thal. The records of 60 villages of Khushab, and the remaining records of Shahpur-Bhera filed. Khushab Tahsil inspected, and the report submitted in November 1914.

Season 1914-15.—The remaining records of Khushab Tahsil filed; all village administration papers attested on the spot by Settlement Officer. Orders received on the Khushab Report in June, and assessments announced in June-July.

Season 1915-16.—*Bachh* statements completed. All water-rights in Khushab attested by Settlement Officer. Orders received on the Bhera-Shahpur Report at end of February 1916; assessments announced in March: *bachh* statements completed by June 1916. Settlement Report and Gazetteer written by June 1916.

30. New village note-books have been written up for all estates under settlement. New Abstract Village Note-books have also been compiled, containing for each estate

(1) a small scale map, (2) a statement shewing the main statistics bearing on the assessment, (3) a blank statement for the entry of leading statistics year by year, (4) my village inspection notes, (5) my orders determining the assessment and the method of distribution, (6) blank pages for notes by District Officers. It is hoped that more use will be made of these note-books in the future than were made of Mr. Wilson's during the past settlement. I have supplied copies of my village notes to the Sub-Divisional Officer, Khushab, and the Revenue Assistant.

31. The external boundaries of the district, in the part under settlement, have been made to conform to the decisions of Messrs. Talbot and Abbott, and Pandit Hari Kishan Kaul and Captain Crosthwaite, in Jhelum, Jhang, and Mianwali,

respectively. As between estates within the district, it was found that the riverain was full of gaps and overlaps: in one case an estate was found to overlap into the next estate but one! Orders were passed fixing the boundary between every pair of trijunction pillars, indicating (a) the exact location of the trijunction pillars in relation to the co-ordinated square-system of the riverain detachment's mapping sheets; (b) the conformation of the boundary as between those two points. The decisions were embodied in the riverain mapping sheets of each village, and also in a compiled small scale trace for the whole river bed supplied by the detachment. Similarly in the Thal, it was found that the old maps were very erratic (as was indeed only to be expected in a circle where the old maps had been built up on squares laid by the *paticari* often several miles from the original base square). Each separate boundary was determined and related to the co-ordinated square system, and entered up in the maps of each village, and in a small scale compiled trace for the whole Thal. It is to be noted that, wherever a trijunction pillar was found in existence, it was presumed to be correctly located unless there were clear evidences to the contrary. It is hoped that in the future no difficulties will arise about village boundaries, though no doubt in the Thal, where permanent boundaries are non-existent, the villagers will often cultivate on the far side of their village limits.

32. A very large number of transfers of rights were brought to light, and a large number of mutations were also necessary to determine the possession of rights in

Mutation Crk.
the common land in cases of transfer by sale, gift and mortgage, in which hitherto there was no explicit order as to these rights. A number of changes in the method of distributing torrent water were also brought to light. The number of mutations decided for each year during the currency of settlement operations is shewn below:—

Tahsil,		1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	Total.
Bhera	...	5,538	8,396	1,103	1,450	...	11,428
Shahpur	...	5,783	3,309	4,222	1,583	852	15,749
Khushab	...	...	11,218	18,076	22,032	8,771	50,997
Total	...	11,321	17,863	18,400	25,965	4,823	78,172

Case work.

33. The total number of cases of each kind disposed of and left pending during settlement has been—

	<i>Disposed of.</i>	<i>Pending.</i>
Partition	...	965
<i>Lambardaris and Zaildars</i>	...	187
<i>Patwaris and Gonungos</i>	...	349
Boundaries	...	12
Revenue assignments	...	...
Revenue appeals	...	1,400
Miscellaneous	...	84
Total Revenue cases	...	202
		419
		1,501
	6,119	2
		95
		504

Some very important partitions have been carried out. In 1915-16 practically the whole tract of the Mohar Circle lying between the Khushab-Bannu road and the Thal Circle was under partition, and in some cases the files have been completed, while in others it has only been possible to complete the

partition on paper and do an *ad interim* delimitation of boundaries on the ground, leaving the case to receive final orders when the large number of co-sharers now on active service had a chance to appear in person, and signify their acceptance of their shares. One or two villages in the Thal started partitions of the village waste, but in each case it was necessary for me to decide all sorts of preliminary questions of right as in Civil Court, consigning the file to the Record Room till such time as these questions are fought out—probably in the Chief Court. As soon as the leading cases have been decided, a general partition of waste in the Thal may be looked for.

CHAPTER IV.—REVISION OF THE ASSESSMENT.

34. The Forecast Report was submitted by Mr. V. Connolly in April 1910, and the Financial Commissioner anticipated that re-assessment would result in the following increases in each circle :—

Circle.	Fixed revenue.	Water advantage rate.	Royalty.	Total.
	Rs.	Rs.	Rs.	Rs.
Bhera-Shahpur	... ... ...	7,400	34,603	10,000 52,000
Khushab-Jhelum	... ... ...	12,000	...	...
Khushab-Thal	... ... ...	10,000	...	...
Khushab-Mohar	... ... ...	...	...	...
Khushab-Hill	... ... ...	7,000	...	...
Total Khushab	... 29,000	...	...	29,000
Total	... 36,400	34,600	10,000	81,000

A revision of the assessment for the whole area not already re-assessed by Mr. Rudkin in 1911-12 was sanctioned by Government notification No. 2118 S. (Rev.), dated 13th September 1911.

35. The adoption of the marginally noted assessment circles was

Preliminary questions:
(a) Assessment circles.

- 1. Bhera-Jhelum.
- 2. Bhera-Bar.
- 3. Shahpur-Jhelum, Ara.
- 4. Sargodha.
- 5. Khushab-Jhelum.
- 6. Khushab-Thal.
- 7. Khushab-Mohar.
- 8. Khushab-Hill.

sanctioned by Financial Commissioner's letter No. 7572, dated 29th October 1912, and by his letter No. 181,* dated 10th January 1914, for the cis-Jhelum and Khushab tahsils, respectively. The only changes made in the old arrangement (1) that one village was transferred from the Bhera-Bar to the Bhera-Jhelum, (2) that one village was transferred from the Shahpur-Jhelum

to the Bhera-Bar, and one from Shahpur-Jhelum to Khushab-Jhelum, (3) the few remaining villages of the Shahpur-Ara were amalgamated with the Jhelum circle. It is to be noted that in several cases the same village has been re-assessed by Mr. Rudkin in respect of one portion of its lands and by me in respect of the remainder. In such cases, these villages are now for statistical purposes included in the assessment circles in which Mr. Rudkin placed them. Two villages of Bhera-Jhelum circle were transferred to Gujarat District after I had assessed them.

Orders sanctioning the scale of commutation prices were received with Financial Commissioner's letter No. 6917, dated 4th October 1912. The sanctioned scale was based on the average prices contained in the circle note-books for the 10 years ending 1911, and on the prices sanctioned for Mr. Rudkin's re-assessment

(b) Prices.

of the rest of the district. It compares as follow with the rates of Mr. Wilson's settlement :—

Prices in annas per maund or Rs. per acre.	Rice.	Maize.	Jowar.	Bajra.	Til.	Chana, etc., Kangar.	Cane.	Cotton.	Wheat.	Barley.	Gram.	Maseer.	Tobacco.	Mehdi.
						Rs.							Rs.	Rs.
Last settlement ...	16	20	18	21	64	14	80	43	25.5	16	18	20	10	40
Present settlement ...	24	28	26	30	77	20	100	88	36	24	28*	24	40	60
Rise per cent. ...	50	40	44	43	12	43	25	109	41	50	55	20	300	50

The total rise per cent. of the new scale over the old was 49 per cent. The actual rise in prices current was found to have amounted to about 35 per cent. during the course of settlement.† Detailed calculations will be found in the assessment reports. On paper, prices appeared to have risen much less in the Thal than elsewhere, but actually that circle has been transformed from an importing to an exporting tract, and the value of produce has risen enormously.

In the cis-Jhelum Tahsil the harvests selected‡ for the produce estimate

(e) Harvests selected for the produce estimate. were 1905-06 and 1907-08 to 1910-11 inclusive. The reason for the omission of 1906-07 was that while the revenue records showed the rabi harvest

of that year as very successful, actually it was quite the reverse, owing to damage to the crops by flood after harvest inspection and the fact that a large area of good crop was left unharvested owing to the effects of plague. In that year the Canal Department remitted a large portion of the area, and our records gave no hint of this fact. For Khushab the quinquennium from 1906-07 to 1910-11 inclusive was adopted.§ In both cases the most that can be claimed is that the selection is as representative as any short period can be: it was impossible to select a longer period owing to the magnitude of the changes that had taken place in the district in the quinquennium preceding 1905. In general it may be said that the selection gave a slightly low standard for the cis-Jhelum and the Thal, a slightly high standard for the Jhelum and Hill circles of Khushab, and a standard of more than 10 per cent. above normal for the Mohar. In calculating the produce estimate of Khushab, I reduced the figures to the apparent normal.

The classes of soil recognized are—(1) *chahi*, (2) *chahi-nahri*, (3)

(d) Classification of soil. *nahri*, (4) *abi*, (5) *sailab*, (6) *barani I*, (7) *barani II* (8), *barani III*, (9) *banjar jadid* (10) *banjar qadim*, (11) unculturable.

(1) *Chahi* is land irrigated from a well or *jhalari* twice in the last four years, for which a well or *jhalari* is still in existence.

(2) *Chahi-nahri* is land ordinarily irrigated from a canal, but also commanded by a well, from which it has received water once in the last 4 harvests.

(3) *Nahri* is land irrigated from an inundation canal, or from a *kharif* distributary of the Lower Jhelum Canal: the former has been distinguished from the latter by the addition of the word *tughiani*.

* In the Thal circle the rate for the gram was only 2½ annas.

† See paragraph 7 of letter No. 26, dated 25th February 1916, from Revenue Secretary to Punjab Government, and paragraph 6‡ of the Khushab Assessment Report.

‡ Financial Commissioner's letter No. 7160, dated 14th October 1912.

§ Financial Commissioner's letter No. 181, dated 10th January 1914.

(4) *Abi* is land irrigated from a perennial stream (this class is only found in the Mohar and Hill Circles, which contain no *nahri*).

(5) *Sailab* is land deriving benefit from the floods of the river Jhelum.

(6) *Barani I* is land assured of water from a hill torrent or higher field. In the Hill Circle it is called *hail* and in the Mohar Circle *naladar*.

(7) *Barani II* is all land not included in *barani I* which gets surface drainage from higher land or an uncertain overflow from higher fields : in the Hill Circle it is called *maira* and in the Mohar circle *ravidar*.

(8) *Barani III* is all other *barani* land in the Hill and Mohar Circles and all *barani* land in other circles. In the Thal, the *bachh* papers generally distinguish between *lagha* (i.e., the sandy loam in the hollows) and *wari* (i.e., the cultivated sand hills).

This classification repeats that of the previous settlement, except that (1) *chahi-nahri* was not previously distinguished from *chahi* and (2) I have included in *barani I* and *II* the embankments which were previously measured as "unculturable." In calculating the increase of cultivated area and fixing the soil-rates this change in classification was borne in mind.

36. The estimate of produce per acre of each crop was based primarily, on the opinions of Mr. Wilson, and checked (in
outturns. a few cases raised) by the results of crop-experiments made during settlement, and by my own observations. In making experiments on well lands in Bhera and Shahpur, I had all the wells graded, and experiments made in each grade, and arrived at my average by comparing the outturn in each grade with the relative acreage occupied by that grade. The result was to confirm Mr. Wilson's estimate. The details of the estimate are, for convenience of reference, printed in Statement I. The only criticisms passed on them by higher authorities were to the effect that *chahi bajra* in Bhera and Shahpur and gram in the Thal had been pitched somewhat high.

37. Following Mr. Wilson, I allowed a deduction of one-sixth of the outturn on all ordinary crops in the case of well lands and one-eighth on other classes of soil, for the expenses of upkeep and management, including harvesting. I also left out of account the following proportions of the fodder crops grown on wells on the supposition that they were consumed by the tenant's cattle free of rent :—

	<i>Chari and jowar.</i>	<i>Green wheat.</i>	<i>Turnips.</i>	<i>Other fodder.</i>
Bhera	...	One-half.	One-tenth.	Three-quarters. One-half.
Shahpur	...	Three-quarters.	One-sixth.	Three-quarters. Three-quarters.
Khushab	...	Three-quarters.	One-sixth.*	Three-quarters. Three-quarters.

These allowances are adequate on the well lands and generous on other classes.

38. The average share of rent taken by the landlord was calculated on the basis of recorded rents in kind for each class of soil, and the figure arrived at was applied also to the area cultivated by the owner himself. The details will be found in

*Green wheat was not deducted in the Hill Circle.

the assessment reports. The resulting percentages of the divisible crop taken as the landlord's share are—

		<i>Chahi and shahi-nahri.</i>	<i>Nahri and abi.</i>	<i>Saslab.</i>	<i>Barani I.</i>	<i>Barani II.</i>	<i>Barani III.</i>
Bhera	...	50*	■	■	...	...	53*
Shahpur	...	50	50	50	...	...	50†
Khushab-Jhelum	...	49	50	50	...	...	45
Thal	...	...	...	—	...	...	88
Mohar	...	45	45	...	45	40	33
Hill	...	50	50	50	50	48	33

Generally speaking, it may be said that a half-share of grain and straw is everywhere the standard rent, but that on well lands very little straw is taken, and on *barani* soils the standard varies between one-half and one-third according to quality, the average having risen somewhat since settlement.

39. There is considerable difference of practice in the extent to which the changes for canal water are borne by the landlord and tenant, respectively. Generally speaking, it is the case—(1) that on the *Kharif* Distributaries of the Lower Jhelum Canal, and on the upper reaches of the Raniwah, the water expenses including water-advantage rate are shared equally; (2) that in the west of Bhera Tahsil and in villages of Shahpur as far west as Jhawarian, the tenant pays some share of the water-charges; (3) west of Jhawarian and on the Corbynwah, the owner pays all dues; (4) on their own lands the canal owners take a half-share *plus* certain dues, and this covers both land rent and water dues. The exact effect of these adjustments is calculated in Table XI-B of the Bhera-Shahpur Assessment Report.

40. The half-net assets on cultivation arrived at after all these factors had been combined were as follows:—

Resulting half net-assets by produce estimates.

	Rs.	Rs.
Bhera-Jhelum	2,48,320	
Bar	6,531	} Bhera Tahsil ... 2,54,851
Shahpur-Jhelum	4,12,323	} Shahpur-Sargodha ... 4,15,730
Sargodha	3,407	
Khushab-Jhelum	1,17,500	
Khushab-Thal	44,500	
Khushab-Mohar	1,34,000	} Khushab Tahsil ... 4,16,600
Khushab-Hill	1,20,600	
		Total ... 10,87,181

Not much use could be made of the few existing cash rents, but they, in combination with the consideration of sale and mortgage-prices, went to show that the produce estimate was reasonably near the mark.

41. Considerable pains were taken, especially in the case of Khushab, to arrive at a demonstrable minimum of the profits derived from cattle. It was however pointed out by reviewing officers that I had not been sufficiently cautious in my estimate of the proportion of these profits actually accruing to the revenue-payers,

*40 in Bhera Bar.

†33 in Sargodha.

and my figures were materially reduced. In the case of the Jhelum and Hill circles of Khushab, Government left all profits from the waste out of account altogether, in estimating the half-net assets of those circles, but declared itself unwilling to accept the Financial Commissioner's suggestion that, even in the Thal and Mohar, only the half-net assets from cultivation need be considered.

42. In the orders of Government on the assessment reports, the sum

The full fair half-net assets, as accepted by Government. accepted as representing the theoretical maximum claimable as land revenue were—

<i>Tahsil and circle.</i>	<i>Total half- net assets.</i>	<i>On cultiva- tion.</i>	<i>On waste.</i>
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
Bhera ...	2,50,000	2,38,000	12,000
Shahpur-Sargodha ...	4,11,000	3,90,000	21,000
Khushab ...	4,80,000	4,09,000	71,000
Total ...	11,41,000	10,37,000	1,04,000

43. The Bhera-Jhelum and Bar Circles were included in one set of

Assessment of Bhera Tahsil. orders for assessment. The new settlement was due in *rabi* 1911, but orders were only received

in time to admit of announcement of the new demand for *rabi* 1916. Moreover, Rs. 14,530 of Mr. Wilson's demand had, for no very adequate reason, been left in abeyance. The existing assessment on canal-lands was decidedly light, the canal-area had increased 5 per cent., and there had been an increase in the number and efficiency of the wells. The general nature of the new assessment may be judged from these figures —

	Rs.
Half-net assets ...	... 2,50,000
Previous assessment ...	... 1,07,382
Demand proposed ...	... 1,54,200
Demand sanctioned ...	... 1,40,000 } (including water advan- tage rate).
Demand imposed ...	... *1,19,880
Increase per cent. ...	... 25
Percentage of half-net assets ...	... 56

	Rs. A. P.
Incidence { Per acre cultivated ...	1 13 9
Per acre matured ...	1 14 8

44. The Shahpur and Sargodha tahsils were included in one set of

Assessment of Shahpur and Sargodha. orders. The new settlement was due in *kharif*

1912 : orders were received in time to admit of announcement for *rabi* 1916. Of Mr. Wilson's final demand Rs. 2,800 were still unimposed. Here too the canal lands were very lightly assessed : canal irrigation had extended 36 per cent., wells had increased in number 3 per cent., and had improved in efficiency :—

	Rs.
Half-net assets ...	... 4,11,000
Previous assessment ...	... 1,87,000
Demand proposed ...	... 2,53,800
Demand sanctioned ...	... 2,40,000
Demand imposed ...	... *1,80,560
Increase per cent. ...	... 12
Percentage of half-net assets ...	... 58

	Rs. A. P.
Incidence { Per acre cultivated ...	1 7 11
Per acre matured ...	1 11 9

45. The new assessment was due in *kharif* 1911 in the Hill Circle and

Assessment of Khushab Tahsil. in *rabi* 1913 in other circles. Actually it was

introduced in all circles in *rabi* 1915. The old assessment had been imposed in full. Cultivation increased 38 per cent.,

* Fixed demand only. See paragraph 48 below.

irrigation 15 per cent., crops 20 per cent. and cattle 51 per cent. For the tahsil as a whole, the half-net assets had about doubled. We may first consider the assessment for the whole tahsil :—

	Rs.		
Half-net asset	... ... 4,80,000	
Previous assessment	... ... 1,98,532	
Demand proposed	... ... 2,76,320	
Demand sanctioned	... ... 2,63,000	
Demand imposed	... ... 2,61,082	
Increase per cent.	... ... 32	
Percentage of half-net assets	... ... 55	
(A)	(B)		
Rs.	A. P.	Rs.	A. P.
Incidence { Per acre cultivated	... 0 13 6	0 12 6	
Per acre matured	... 1 7 6	1 5 10	

The two sets of incidences are according as the sum assessed on waste is included or excluded.

46. In the Jhelum Circle conditions are somewhat similar to those in Assessment of Khushab by circles— Shalipur Tahsil, but the previous assessment was (a) Jhelum Circle. considerably fuller. Cultivation had increased 12 per cent., irrigation and crops each by 11 per cent. Rents had risen slightly, the class of crops somewhat improved, and cattle increased 40 per cent :—

	Rs.		
Half-net asset	... ... 1,17,500	
Previous demand	... ... 64,000	
Proposed demand	... ... 75,000	
Sanctioned demand	... ... 75,000	
Imposed demand	... ... 73,032	
Increase per cent.	... ... 14	
Percentage of half-net assets	... ... 61	
(A)	(B)		
Rs.	A. P.	Rs.	A. P.
Incidence { Per acre cultivated	... 1 9 0	0 5 0	
Per acre matured	... 2 0 0	1 3 1	

In this circle, discovery of the possibility of gram cultivation had entirely revolutionized the conditions. Cultivation and crops had both nearly trebled, while cattle had more than doubled. The half-net assets had more than quadrupled, and the existing assessment was merely nominal :—

	Rs.		
Half-net assets	... ... 82,000	
Previous demand	... ... 11,830	
Proposed demand	... ... 47,320	
Sanctioned demand	... ... 36,000	
Imposed demand	... ... 35,900	
Increase per cent	... ... 203	
Percentage of half-net assets	... ... 41	
(A)	(B)		
Rs.	A. P.	Rs.	A. P.
Incidence { Per acre cultivated	... 0 6 6	0 5 0	
Per acre matured	... 1 1 2	0 13 1	

Here too there had been a considerable increase of gram cultivation, but there had been no great development of the important torrent cultivation. Altogether cultivation had increased 20 per cent., but crops had only increased 9 per cent. (c) Mohar Circle.

The quality of crops had improved, as also had rents. Cattle had increased 26 per cent:—

			Rs.	
Half-net assets	...	...	1,60,000	
Previous demand	...	...	69,206	
Proposed demand	...	...	88,000	
Sanctioned demand	...	...	88,000	
Imposed demand	...	...	88,100	
Increase per cent	...	...	27	
Percentage of half-net assets	...	...	55	
Incidence { Per acre cultivated	... 0	11 4	0 10 0	
{ Per acre matured	... 1	8 9	1 6 0	

Here there had only been an increase of 7 per cent. in cultivation.

(d) Hill circle. Crops had actually decreased, but the small irrigated area had increased 27 per cent. There

had been some improvement in rent, and cattle had increased 26 per cent. This circle had at last settlement been assessed 8 per cent. below the standard for the rest of the district, owing to the industry and loyalty of the Awans. The same qualities have again stood them in good stead:—

Half-net assets	...	...	...	...	1,20,500
Previous demand	...	...	...	...	53,487
Proposed demand	...	...	...	...	66,000
Sanctioned demand	...	...	...	...	64,000
Imposed demand	...	...	...	...	64,050
Increase per cent.	...	...	...	...	20
Percentage of half-net assets	...	...	...	...	53

Incidence { Per acre cultivated	... 1	3 8	Rs. A. P.
{ Per acre matured	... 1	7 0	

47. The final assessments announced for each estate brought out the aggregates shewn as "demand imposed" for each tahsil and circle in the preceding paragraph. It was, however, necessary to make some slight adjustments on account of di-alluvion,

The final fixed demand as settled after adjustment on account of appeals, di-alluvion, etc.
which had occurred since measurements, and of alterations of the assessment on revision and appeal. Altogether applications for revision of, and appeals against, the assessment were lodged to the extent shown in the table:—

			Applications for revision.	Appeals.	Reduction of assessment on revision.	Reduction of assessment on appeal.
			Rs.			
Bhera	...	...	51	15	125	275 (Chak Ram Bass).
Shahpur	...	...	65	46	800	100 (Jahanabad).
Khushab	...	...	33	9	113	...

In Khushab as a whole the new assessments were received with acclamation, and their leniency frankly admitted. In Bhera and Shahpur the same is true of the fixed demands, but there were considerable objections to the doubling of the water-advantage and trebling of the royalty rates, which will

be described below. When all the necessary adjustments had been made the final fixed demand stood as follows :—

	Bhera.	Shahpur-Sargodha.	Khushab.	Total.	DETAIL FOR KHUSHAB.			
					Jhelum.	Thal.	Mohar.	Hill.
Final fixed demand as originally announced.	1,19,775	1,81,429	2,60,894	5,62,098	72,630	35,900	88,097	64,287
Deduct for reductions or revision or appeal.	-400	-800	-113	-1,313	-113	...	...	...
Add or subtract for deluvion.	+505	-89	+301	+797	+515	...	+3	-217
Final fixed demand as now settled.	1,19,880	1,80,580	2,61,082	5,61,532	73,032	35,900	88,100	64,050

48. The difference between the total demand sanctioned and these fixed demands is to be taken in the form of a rate in *nahri* and *chahi-nahri* lands fluctuating with the water-advantage rate.

area of matured crops and grass. This rate which is a land-revenue rate, is known as "water-advantage rate" or 'khush-haisiyati', and represents the difference in the assessable value of *nahri* lands, which have, for purposes of the fixed assessment, been treated in their unirrigated aspect. The inundation canals of the district are so erratic, and their future has been so involved in doubt by the construction of the Upper Jhelum Canal, that it was decided to maintain a very low 'barani' fixed rate, and take the bulk of the increase by means of doubling this fluctuating rate, thereby ensuring a high degree of elasticity. It is, however, worthy of remark that if, in accordance with a recent notification, the Canal Department adopt the same methods of computing failed areas on these canals as on the perennial canal, this elasticity will be largely sacrificed : I have represented this matter in a separate reference. The new scale of water advantage rate on all canals in the area under settlement is—

Re. A. P.

For crops matured by flow	...	...	1	0	0	per acre.
For crops matured by lift	...	...	0	8	0	"
For grass ...	...	...	0	4	0	"

No field is to pay more than the full rate for one crop in any one year.

49. The final fixed demand will not be recoverable until almost the end of the settlement. This is due to the fact that the initial fixed demand. considerable sums have been deferred on account of certificates of exemption granted to new wells, and that in the Thal the increase in demand will be taken in 3 five-yearly instalments, while in other villages the general rules for deferring collection of increases in excess of 33 per cent. will apply. A calculation comparing the final with the initial demand will be found in Statement II.

50. Care has been taken to give the full benefit of existing rules to all who have built new wells within the last 20 years. Not only have all new wells been

granted certificates exempting them from the payment of irrigated rates for the periods allowed by the general orders, but, in the case of wells which were built to replace unworkable wells which had not been granted remissions to which they were entitled under paragraph 558 of the Land Administration Manual, the period of exemption was, with the Commissioner's sanction, so extended as to make up to the owners the amount of relief which had been denied them. In two other respects slight departures from the strict letter of the orders have been made, with a view to conforming to their spirit : (a) in the case of undivided estates, in which an all-round rate has been adopted simply because there was no object in distinguishing soil-rates in a single holding, I have fixed soil-rates for the purpose of calculating well exemptions ; (b) in the case of estates in which there is no unirrigated rate simply because there is no unirrigated land, I have assumed an imaginary unirrigated rate for the

benefit of lands which would now be unirrigated if they were not commanded by a new well. Of course in estates where an all-round rate has been deliberately adopted by the owners for all classes of cultivation, no exemptions have been granted. Everything possible has been done to direct the attention of the cultivators and the Revenue staff to the concessions allowed by paragraph 558 of the Land Administration Manual : a translation of these rules has been printed on each exemption certificate, and has also been circulated to all village-headmen, and special instructions to the staff are being promulgated. It is hoped that in future the good intentions of Government will not be rendered ineffectual by mere ignorance.

51. According to the orders of Government, the assessment of the Thal was raised from Rs. 12,000 (round) to Rs. 21,000 with effect from *rabi* 1916. In *rabi* 1921, this will again be raised to Rs. 28,000; and in *rabi* 1926 the full demand of Rs. 36,000 will be imposed. I have given detailed orders shewing how the increase is to be taken in each estate : it was not possible to fix soil rates for the final demand in advance, as the custom of the Thal is to redistribute the demand every year over cultivation and cattle.

In the other circles, the only modification of the ordinary rule has been that in villages in which part of Mr. Wilson's assessment was still in abeyance. I have considered that part to be included in the old demand.

52. The immediate and ultimate results of the revision of assessment are as follows :—
Financial results of re-assessment.

Tahsil.	Old demand.	NEW DEMAND.		INCREASE PER CENT.	
		Initial.	Final.	Initial.	Final.
Bhera	Fixed ...	... 96,026	Rs. 1,10,768	1,19,880	15 26
	Fluctuating	... 9,723	20,000	20,000	106 106
	Total	... 1,05,749	1,30,768	1,39,880	24 32
Shabpur-Sargodha	Fixed ...	... 1,60,941	1,66,691	1,80,560	4 12
	Fluctuating	... 27,383	60,000	60,000	119 119
	Total	... 1,88,324	2,26,691	2,40,560	20 ■
Khushab	Fixed ...	... 1,98,474	2,40,252	2,61,082	21 32
	Fluctuating	... 1,009	2,000	2,000	98 98
	Total	... 1,99,483	2,42,252	2,68,082	21 32
Total	Fixed ...	... 4,55,441	5,17,711	5,61,522	13 28
	Fluctuating	... 38,115	82,000	82,000	115 115
	Total	... 4,93,556	5,99,711	6,43,522	22 30
Jhelum	Fixed ...	... 68,956	70,052	73,032	10 14
	Fluctuating	... 1,009	2,000	2,000	98 98
	Total	... 64,965	72,052	75,032	11 15
Thal	Total	... 11,830	21,000	35,900	78 203
Mohar	Total	... 69,223	85,618	88,100	24 27
Hill	Total	... 53,465	63,582	64,050	19 20

Detailed for KHUSHAB.

Adding in Rs. 16,000 increase in royalty (which is discussed in Chapter VI) we have a total increase of Rs. 1,22,155 initial and Rs. 1,65,966 final demand, as against a forecast of Rs. 81,000. I do not think it can by any possibility be denied that the new demand is in all respects moderate. This was practically admitted by the private canal owners when they were asked to accept my assessment standards of value as a basis for compensation proposals.

CHAPTER V.—DISTRIBUTION OF THE DEMAND.

53. In distributing the total fixed demand for the circle over estates, ^{Sanctioned revenue rates.} the principal guide was the standard assessment brought out by applying the sanctioned revenue rates for each class of soil. These rates were :—

Class of soil.	Bhera.	Shahpur-Sargodha.	KHUSHAB.			
			Jhelum.	Thal.	Mohar.	Hill.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Chahi	2 6 0	1 10 0	1 14 0	...	...	4 0 0
Chahi-nahri	2 0 0	1 6 0	...	...	...	...
Nahri-abhi	0 10 0	0 8 0	0 6 0	...	...	3 8 0
Sailab	2 1 0	1 12 0	1 14 0	...	...	...
Barani I	...	...	...	...	0 14 0	1 9 0
Baran: II	...	...	...	...	0 9 0	1 2 0
Barani III	0 10 0	0 ■ 0	0 6 0	0 5 0	0 5 0	0 8 0
Banjar	0 2 0	0 2 0	* 4 0 0	■ 8 0	4 0 0	...

*These rates are per hundred acres; other rates are per acre.

I considered, in the light of my village inspection notes, whether the estate should on the merits be assessed above or below these rates.

54. I then considered the amount of the existing assessment, and applied the *bachh* rates of the old settlement to ^{Other standards applied.} the existing areas, noticing specially any reasons why Mr. Wilson assessed above or below his rates. In cases where his assessment had been largely determined by the demand of first regular settlement, I recognized that the average rate of enhancement might be safely departed from. I also worked out assessments on matured crops by fluctuating rates so framed as to give for each class of soil in the circle approximately the same demand as the fixed soil rates. And, in all canal villages, I took into account the extent to which the demand on account of water-advantage rate was being raised. In villages in which a large proportion of the annual demand was payable in this form. I was specially cautious in raising the fixed demand. I also considered carefully the size of holdings, and the amount of miscellaneous income.

55. Wherever there was a recognizable superiority in matters of rainfall, soil, canal dues, etc., in one part of a circle, ^{Geographical distinctions.} I made corresponding differences in the standard of assessment. Thus, generally speaking, in both Bhera and Shahpur I assessed the villages higher up the river above those lower down, and treated very leniently the wells of the old Bar and Ara circles. And I allowed for the fact that in both *tahsils* the villages to the east are able to recover part of the canal dues from the tenants. In the Khushab riverain also, I allowed for the decrease in rainfall as one goes downstream. In the Thal I made considerable differences between the estates north of Nurpur and those to the south, with their scanty rainfall and their large proportion of sand-hill. In the Mohar and Hills I looked principally to the number and size of the torrents, and I was specially lenient to the insecure 'Danda' villages, and the inferior soils of the Tappa and Vanhar tracts.

56. It has always been admitted that in the main Mr. Wilson's distribution over villages was very fair, and as I was able to adhere closely to his standard, I believe that as much can be claimed for the new distribution. So far as I have been able to ascertain public opinion, I am allowed,

^{Public opinion of the distribution over villages.}

to have done substantial justice as between estates. It is recognized that the Thal has been treated with great leniency as a whole : in fact, the assembled villagers of the Thal, having heard their assessments announced, insisted on playing *Pir Kaudi* from 9 to 11 A.M. at the end of June, to give vent to their feelings of relief ! The canal irrigators affect to feel that they have been harshly treated, but I am strongly of opinion that, in view of the comparative ease with which tenants can be kept on canal lands and the easy nature of the cultivation, they are paying no more than their fair share of the revenue. I have already discussed appeals against the amount of assessment.

57. Almost without exception, the villagers elected to distribute the village demand over holdings by means of soil-rates, which is undoubtedly the fairest method.

Distribution over holdings.

The wishes of the villagers had been ascertained in advance, and as I announced the demand of each village, I calculated what the soil rates would be, if those wishes were adhered to. If it was found that inconvenient fractions resulted, or that some class of soil would have to pay more than the villagers intended, adjustments were made with their consent. In a few villages the wells were graded according to quality, generally by the *Tahsildar*. A few villages insisted on adopting an all-round rate for all cultivation, and one village went so far as to apply one rate to cultivation and waste. In the Mohar circle several villages set aside a portion of the demand, to be distributed over the cattle of the village every year. In the Thal the general method adopted was to apply a fixed rate per acre to cultivation (sometimes separate rates were adopted for *lagha* and *wari*) ; the balance of the demand to be distributed over cattle. In any year in which the rates, applied to the cultivated area of the year, bring out more than the demand the rates are to be reduced proportionately. Nearly all the Thal villages so arranged their rates as to give a very small balance recoverable from the cattle ; the idea was that it might be possible by this means to reduce the rights of graziers in the village waste, but I do not think that any court of law is likely to take this view.

58. In Khushab *Tahsil*, orders were received within a reasonable time from the completion of measurements, and the only adjustment, on account of post-measurement changes, that had to be made were :—(a) in the riverain and lake villages, gain and loss by di-alluvion ; this was shown in the *bachh* statements, the revenue rates being applied to the *jamabandi* areas in the first instance, and then the necessary additions or deductions being made, according to the areas gained or lost : (b) in the Thal new cultivation in the waste was entered in the *bachh* statements, and the rate on cultivation applied, the necessary reduction being made from the demand payable on cattle : (c) in one village of the Mohar, where a very large proportion of the waste was broken up after measurements, a quadrennial *jamabandi* was compiled, and the new revenue worked out for the holdings shown in it.

Changes in classification between measurement and distribution.

In Bhera and Shahpur nearly four years had elapsed between measurements and announcement, and so a considerable amount of adjustment was necessary. The procedure adopted was as follows :—(a) wherever a quadrennial *jamabandi* had been prepared since measurements, it was adopted as the basis of the new distribution : (b) in other villages the measurement *jamabandi* was made the basis of the new distribution, but the classification of soils was re-attested, and wherever a holding had—otherwise than by di-alluvion—gained or lost as much as $2\frac{1}{2}$ acres of cultivation, the differences were shown in the *bachh* statements : (c) di-alluvion adjustments were made as in Khushab.

59. There were not many disputes in connection with the distribution :

Objections and appeals.

most of the representations made in matters of detail were settled by general consent. A certain number of astute money-lenders and such like endeavoured to get their wells included in a lower class, and the classification of *barani* soils in

Khushab had in some cases to be reconsidered. But only 70 appeals against the orders of distribution were lodged with the Commissioner, and of these only one was accepted.

60. A useful index of the extent to which the theoretical assessments of the Settlement Officer tally with the practical ideas of the revenue-payers is afforded by a consideration of the soil rates actually adopted in distribution. These work out as follows :—

	Bhera.	Shahpur-Sargodha.	KHUSHAB.			
			Jhelum.	Thal.	Mohar.	Hill.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Chahi	2 7 6	1 10 8	1 16 0	...	0 12 5	2 8 5
Chahi-nahri	1 18 1	1 5 10	...	...	...	...
Nahri-abi	0 9 7	0 8 11	0 8 6	...	0.15 0	2 1 8
Sailab	1 11 8	1 6 1	1 18 8	...	...	...
Barani I	...	...	...	...	0 14 4	1 7 2
Barani II	0 10 10	0 9 1	...	...	0 10 0	1 1 9
Barani III	...	...	0 9 1	0 8 0	0 4 1	0 18 9
Banjar	0 4 10	0 2 6	0 0 2	0 0 1	0 0 5	0 1 0

CHAPTER VI.—MISCELLANEOUS.

61. The royalty rate assessed on the lands irrigated by private canals is not a land-revenue rate, but a "water-due" levied under section 5 of the Minor Canals Act. Like the water-advantage-rate, it is to fluctuate with the matured area, and is payable by the owner of the canal, in respect both of his own lands and of lands owned by others but irrigated from his canal. The rate on crops has now been trebled, the grass rate remaining unaltered : no distinction is made between flow and lift irrigation. The new rates are :—

Crops matured	...	...	...	Annas.
Grass	...	...	...	12 per acre.

62. The value of the revenue now assigned may be compared with that assigned out of the previous demand. Zaildari allowances and inams are not included, as the new scheme described below is for the district as a whole, and the raising of the scale of emoluments was due more to the enhancement of the revenue in the Lower Jhelum Canal area by Mr. Rudkin than to the present settlement :—

	OLD DEMAND.				NEW DEMAND.			
	Bhera.	Shahpur.	Khushab.	Total.	Bhera.	Shahpur-Sargodha.	Khushab.	Total.
1. Total fixed demand,	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2. Khalsa	96,026	1,60,941	1,98,474	4,55,441	1,10,768	1,66,691	2,40,252	5,17,712
3. Jagir and muaf	93,709	1,51,467	1,75,768	4,20,944	1,07,989	1,56,232	2,18,169	4,77,940
4. Percentage of (3) on (1).	2.4	5.9	11.4	7.6	2.6	5.9	11.3	5.7

The present assignments are of the following descriptions :—

Tahsil.	IN PERPETUITY, OR DUE ING THE PLEASURE OF GOVERNMENT, INCLUD- ING GRANTS ON MAINTENANCE TERMS.		FOR A LIFE OR LIVES.		FOR THE TERM OF SETTLEMENT.		TOTAL.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Bhara ...	25	Rs. 2,778	7	Rs. 164	...	Rs. ...	32	Rs. 2,942
Shahpur-Sargodha ...	78	8,868		2,167	...	...	77	10,530
Khushab ...	52	24,385	10	4,217	1	12	63	28,614
Total ...	150	35,526	21	6,548	1	12	172	42,086

The initial amounts assigned in each *tahsil* are :—

	Rs.
Bhara ...	... 2,829
Shahpur-Sargodha ...	... 9,859
Khushab ...	... 27,083
Total ...	<u>39,771</u>

63. The settlement will be concluded before the end of June 1916.

The total cost will be approximately Rs. 2,48,069 :
Cost of settlement compared with financial results. Details are given in statement III. Out of this sum, it is proposed to recover Rs. 7,577 from

jagirdars, and allowance of Rs. 3,823 may also be made for the value of tents, drawing instruments, etc., available for transfer to other settlements, etc. The original estimate of expenditure amounted to Rs. 95,500, but it has already been shown that this was only designed to provide for the re-assessment of three circles, bringing in an increase of revenue of Rs. 64,000. Actually six circles have been re-assessed, and special revisions of record have been made in the case of four circles, and the enhancement taken will be Rs. 1,65,966, so that the settlement will have paid for itself in two harvests. I am inclined to believe that a little less economy at the start would have resulted in a smaller total expenditure.

64. The majority of villagers evinced a desire to adhere to the former distribution of the revenue over harvests. In Instalments.

In the Thal the whole demand was previously payable in the *kharif*, and the villagers asked that this arrangement might be allowed to continue. But in view of the fact that the *Rabi* is now by far the most important crop, and that to leave it unassessed would merely obscure the working of suspensions and remissions, I passed provisional orders to the effect that half the demand should be paid in the *Rabi*. The reason for the villagers' request was that they like to reap their gram as early as possible, and move off to Sargodha for harvesting season. But there seems to be no reason why they should not deposit their revenue with the *lambardar* before they go. In other circles such changes as occurred were all in the direction of diminishing

the share payable in the *kharif*. The proposed arrangements for the estates of each circle are as follows :—

Tahsil or circle.	Kharif $\frac{1}{2}$; rabi $\frac{1}{2}$.				
Bhera	1	99
Shahpur-Sargodha	5	50	111
Jhelum	17	28	18	...
Khushab ...	Thal	25
Mohar	25	...	1	...	4
Hill	3	31

The *kharif* instalment is payable by 15th January throughout the district, and the *rabi* instalment by the 15th July in the Hill circle and 1st July elsewhere. During the past year the system of fixing a special date for each estate, so as to distribute evenly the pressure of work over the period of payments, has been introduced with fair success. If the headmen are properly backed up by the *Tahsildars* in their endeavours to ensure prompt payment by individual revenue-payers, this system will be very popular.

65. The only cesses at present levied, Cesses, are :—

Rs. A. P.

Local rate ...	...	...	...	8	5	4
Lambardari	...	...	...	5	0	0

per cent. of the land revenue, including water advantage rate. No change has been made during recent years. The *patwari* cess and the famine cess have both been abolished since last settlement.

66. The new assessment was introduced in the *rabi* of 1915 in Khushab *Tahsil* and in the *rabi* of 1916 in the *cis-Jhelum Tahsils*. The term of settlement, The period for which it is sanctioned is to be determined by Government. In paragraph 11 of the Government orders on the Khushab Assessment Report a 20 years' term for the Khushab *Tahsil* is provisionally indicated, and I consider that that period is suitable for the whole tract. The record at least will require overhauling by that time and, judging by past experience, it will probably be found that, even if in any circle no enhancement of the demand is necessary, a readjustment as between estates will be welcomed.

67. During the course of settlement I have procured 2 extra *patwaris* for Bhera *Tahsil* and 17 for Khushab, besides 5 assistant *patwaris* for the latter *tahsil*. I have also procured an extra field *kanungo* for Khushab, thus raising the number for that *tahsil* to 4. I failed to convince the Financial Commissioner of the necessity for a fifth *kanungo* both in Khushab and in Shahpur. With the staff now sanctioned it will be necessary for all *kanungos* in these two *tahsils* to work very hard indeed, if they are to secure accurate working of the rules for di-alluvion, canal assessments, and correction of the field maps as cultivation expands in the Thal tracts. I trust that the Sub-Divisional Officer, Khushab, and the Revenue Assistant will supervise their work systematically and sympathetically, and if they find that too much is required of them, the question should be reopened. It would be a pity to allow the Thal maps to revert to their former post-impressionist condition for want of an extra Rs. 25 per mensem. Similarly, it would be worth spending that amount if there is any uncertainty as to the effect on inundation crops of the Triple Canals.

68. Except for a few estates in which there was previously no headman and two in which Tiwana and Nunn maliks had become owners of large portions of old villages headmen. estates, no new headmen have been appointed. On the other hand, a register has been prepared in vernacular to show in which villages it will be as well to reduce the existing number of headmen, as vacancies occur, and this register has been filed in the Deputy Commissioner's office. A few posts have already been reduced in this way.

69. The zaildari system which had been tentatively introduced in the Bhera and Sargodha Tahsils has now been extended to the whole district. The number and grading of both *zaildars* and *inamkhors* has been sanctioned for the district as a whole and ~~questions of personnel~~ are still under the consideration of the

FINANCIAL COMMISSIONERS' OFFICE, PUNJAB
ERRATUM.

Final Settlement Report, Shahpur District, 1911-16.

Paragraph 70, page 31.

For the words "The rates assessment and rules of procedure" in the 1st line of the paragraph substitute—

"The rules of assessment."

Paragraph 71.—In the 9th line for "Appendix III" read "Appendix IV."

Paragraph 72.—At the end of the paragraph for "Appendix IV" read "Appendix V."

Paragraph 73.—In the 2nd line for "Appendix V" read "Appendix VI."

(inclusive of any rate already paid); and if, on the other hand, *nahri* land is allowed to become *banjar qadim*, it is entitled to have its assessment reduced to the village *banjar* rate, or (if no *banjar* rate exists) to the circle *banjar* rate. Rules of procedure for raising and lowering the assessment will be found in Appendix III. If land now under fixed assessment comes under command from a perennial canal, its assessment may be cancelled.

72. In view of the uncertainty to which the opening of the Upper Jhelum Canal has given rise, it has been considered advisable to prepare, as an alternative to the fixed assessment, a scheme of fluctuating assessments in the three Jhelum circles, which may be introduced at need. The rules governing the introduction, and pitch of these assessments, as well as rules of procedure for working them, will be found in Appendix IV.

73. A scheme for the working of suspensions and remissions has been sanctioned, and is printed as Appendix V. In the Thal and Mohar circles the utmost elasticity in revenue collections is called for.

74. The Financial Commissioner has agreed to my suggestion that a new edition of Mr. Wilson's Customary Law is not needed. His enquiry was very thorough, and the customs enumerated by him have not been seriously modified, either by judicial decisions or by general practice. Even 20 years ago the district was to an unusual degree emancipated from the strict theory of agnatic succession, although that theory is still generally recognized as valid.

75. The statistical volume of the Gazetteer was brought up to date in Deputy Commissioner's office in 1912. I have now had the figures for the succeeding years entered up in the Deputy Commissioner's copy, and I hope the Deputy Commissioner will himself see that at least one copy is written up yearly.

The narrative volume has been revised, and a great deal of new matter, necessitated by the rise of the colony, has been inserted by me. A few sections still remain to be written for which I am awaiting the receipt of information from departmental officers, but I shall be able to see the volume through the Press while I am on leave.

76. The forest settlement was carried out by Mr. Wilson with all his usual thoroughness, and I have not had any orders to revise it in any way. The remeasurement of the Thal, however, has resulted in considerable differences of area, and I am submitting a special report on the Khushab *rakhs*. In the case of the Hill *rakhs* I am suggesting some slight relaxation of the rules against new cultivation.

There are considerable areas of Government land in all three *tahsils* apart from the reserved forests. Most of these areas are held either on long leases under the 1897 rules, or else are granted to occupancy tenants: I have submitted a report as to the assessment of these lands, on which orders are still awaited.

The district files on the subject of these leases were in a state of considerable confusion: I rearranged them all and indexed them, and I hope that, in future, it will not be difficult to trace the history of each case. In this work I was assisted by Mr. Puckle.

The following areas of Government land are at present of no use either as forests or as fuel and fodder reserves:—

- (1) *Kallar Savkar*, near Sahiwal.—If canal water could be spared for this, it might well be allotted for cultivation.
- (2) *Rakh Sahnu*.—Nawab Khuda Bakhsh Khan, Tiwana, has applied for leave to purchase this *rakh*, and I have recommended sale.
- (3) *Rakh Buslana*, so far as still unallotted.—I have recommended that this area be leased to the *abadkar* who holds the remainder of the *rakh*.
- (4) *Rakh Pindi Jauri*.—I have recommended sale to the persons at present cultivating on annual leases.

There seems to be no good reason why the Thal *rakhs* should not be allotted for *barani* cultivation to persons selected for grants on the Lower Bari Doab Canal, if they prefer to take up a grant nearer home and wait for the Sind Sagar Canal.

Matters requiring the attention of Revenue Officers.

77. I note here those matters which will require to be looked after, if the settlement is to work as designed:—

(1) *The assessment of water-advantage rate and royalty*.—On the private canals this work is done entirely by the revenue staff. Points requiring special attention are:—(a) the correct calculation of matured and failed areas: (b) the assessment of grass. On the State-owned canals the water-advantage rate is assessed by the Irrigation Department, and it would be well if the Deputy Commissioner satisfied himself from time to time that they were making proper allowances for failure. This can be done by comparing the *patwaris'* crop-registers with the demand statements.

(2) *The raising and lowering of assessment*.—In villages where *banjar* land becomes *nahri* and vice versa.

(3) *The di-alluvion assessments*.—These are apt to become very sketchy if not properly supervised. Special care should be taken to see that the measurements are made strictly in accordance with survey lines and squares.

(4) *Suspensions*.—The sanctioned scheme draws attention to all the important points.

(5) *Partitions.*—Enormous areas of Thal waste are likely to be partitioned in the near future. For these a special staff, including at least a *kanungo* for each estate and probably (if several partitions are going on concurrently) a *Naib Tahsildar*, will be required. Government has held that the pay of this staff can be charged as part of the costs of partition. Special care should be taken to see that the *nishan dehi* is done correctly according to the map. During the currency of the last settlement much of the partition work was very inaccurately done.

In the case of partitions in the Hill and Mohar circles it should always be noted to what extent the water-rights are being modified.

(6) *Map correction and quadrennial jama'andis.*—This will involve really hard work in the Thal, and every effort should be made to ensure correctness. Otherwise there will be trouble when the canal comes. But unless it is possible to guarantee fair accuracy care should be taken to ensure that cultivators are not turned out of fields in their possession merely in order to make the facts conform to the map. If in *hadbarari* proceedings it is found that possession is contrary to the maps, it will very often be wiser to alter the map than to alter possession.

The *Tahsildar* will be responsible for the quadrennial correction of the *tahsil* copy of the village map. It may safely be predicted that the quadrennial *jama'andis* will not be kept up to that degree of accuracy which the Standing Orders require unless the Sub-Divisional Officer and the Revenue Assistant make a point of checking each *kanungo*'s work thoroughly.

(7) *Mutations.*—Any tendency to vary the settlement records by means of mutations "to correct the entry" should be carefully watched. Assistant Collectors are very apt to pass orders *ultra vires*, overriding previous orders, which can only be set aside by regular revision.

(8) *Note-books.*—The *saulr kanungo* is responsible for the punctual entry of statistics in the Abstract Note-books. The only way of ensuring this being done will be for the Deputy Commissioner and Sub-Divisional Officer to take one or more of the note-books on every tour, and make use of them.

(9) *Deterioration of estates.*—In any riverain village in which there appears to be real difficulty in paying the fixed demand, the fluctuating system should be introduced. Villages along the lines of the Didhar and Raniwah drainages should be watched for signs of increasing *kalar*. If serious deterioration is noticed, steps should be taken in conjunction with the Canal Department to have the Raniwah drainage fixed as the boundary between perennial and inundation canal supply, and the drainage should be cleared out, and tailed off into, or under, the Sulki Branch.

(10) *Remissions on wells falling out of use.*—Any *patwari* who omits to report on the collapse of a well should be severely punished.

(11) *Grazing contracts.*—Care should be taken to ensure that, where as is almost the invariable rule) the grazing contract of a *rakh* is given to a village as a whole, the nominal contractors do not monopolize the profits for themselves. In any village in which there are disputes as to the right to be included among the nominal contractors, it may be safely presumed that there is something wrong.

Training of officers.

78. The following officers received training in this settlement :—

Assistant Commissioner	...	...	...	...	1
Extra Assistant Commissioners (Probationary)	...	...	...	...	2
<i>Tahsildar</i> Candidate	...	...	...	...	1
<i>Munisif</i> candidates	...	...	...	...	1
<i>Naib Tahsildar</i> candidates	...	...	...	...	10
<i>Kanungo</i> candidates	...	...	...	...	8
Other	...	...	...	...	1
			Total	...	25

The expenditure on their salaries and allowances, except for gazetted officers, totalled Rs. 5,200 and was debited to the cost of the settlement. I also gave a thorough training to Kanwar Bhan Singh, by request of the Darbar of Bikaner State.

79. For the first year of settlement the superior staff consisted of myself (Assistant Settlement Officer), M. Kifayat Ali, Settlement *Tahsildar*, and 3 *Naib-Tahsildars*

Work of the staff.
My own ignorance of settlement work was at that time practically exhaustive, and the credit for having completed the measurements and a fair proportion of the *jamabandis* of Bhera and Shahpur within the year is due to Kifayat Ali. He was very ably assisted by M. Allahyar Khan, *Naib Tahsildar*, whose work was of a high standard.

In the second year, Lala Wali Ram succeeded Kifayat Ali, and he has remained in charge of the cis-Jhelum tracts up to the end. His work was entirely satisfactory, and his sturdy commonsense and unfailing good humour have commended him to all. Lala Mahesh Das was promoted from *Naib Tahsildar* to be Settlement *Tahsildar* in Khushab, and he has laboured unremittingly to get his maps and records accurate. During the second and third years of the settlement I was fully occupied with the work of assessing, and so Mahesh Das is entitled to full credit for the supervision of the records. In spite of his short experience the results have been decidedly good, and he is also much praised by the people for his honesty. He now becomes *Tahsildar* of Khushab, and as his knowledge of the *tahsil* is very thorough, I have no doubt he will be of great assistance to the Deputy Commissioner. Of his four Settlement *Naib Tahsildars*, M. Allahyar Khan again proved himself an excellent organizer and strenuous worker, and carried through the remeasurement of the Thal in a masterly manner. He remains in Khushab as *Naib Tahsildar*.

Khan Abdul Majid Khan also did very well, although he was practically ignorant of settlement work when he arrived. In Shahpur Sheikh Mahbub Ali, *Naib Tahsildar mahal*, did very good work and is very well thought of. All the officers I have mentioned showed themselves capable of doing very sound work and commanding the confidence of the people. I have recommended that Lala Mahesh Das be accepted as candidate for the post of Extra Assistant Commissioner, and that Malik Allahyar Khan be promoted to *Tahsildar* as soon as possible. Khan Abdul Majid Khan would also make a good Extra Assistant Commissioner.

Of the *kanungos* I would specially mention Ghulam Ali, Kahan Chand, Taj-ud-din and Anokh Rai, though there were several others whose work was well above average.

Lala Hukam Chand has been Head Clerk since October 1913 when I was promoted to be Settlement Officer and given an office of my own, and has been methodical and industrious and kept his office well in hand. As Readers I have had Chaudri Rahmat Khan and Munshi Faiz Muhammad, the former for about a year, and the latter for the last 3½ years. Both showed themselves thorough masters of revenue literature, and were of the greatest assistance to me. I believe them to have worked with honesty, and know they have been most diligent.

As *nazir* Lala Harbhagwan had a very difficult task in taking over charge after the settlement had been in progress for two years with only the most makeshift arrangements for *nazarat*. He came from Amritsar with a very good reputation, and he has added to it. I do not think that it would be wise to repeat the experiment of running a settlement without a *nazir*. The settlement mapper, Lala Kidar Nath, has produced all the maps mentioned in paragraph 26, and has done his work carefully and neatly. I am unable to enumerate all the *pawaris* and clerks who have done good work, but I am commending the best of them to the notice of the Deputy Commissioner and the Registrar of Co-operative Societies.

On the whole, I consider that, in view of the numerical weakness of the supervising staff, the work of settlement has been done with all due despatch and with very few complaints of dishonesty. The relations of the field establishment and the peasants have been for the most part quite cordial, and I am obliged to the numerous *halqadars* and headmen who have helped to facilitate the progress of work.

I must also express my obligations to Mr. Wakefield and Major O'Brien for their support and advice during the time that I was nominally working as their assistant ; to Mr. Puckle for doing his settlement training in such a way as to be of real assistance to me, to M. Gul Muhammed, district *kanungo*, and his assistant Harnam Das, who have helped me greatly in a variety of way ; and to Ladli Parshad, Sant Singh and Juma Khan, all members of the Deputy Commissioner's office, for assisting in the compilation of multifarious statistics, and the typing of all my correspondence, for two years over and above their ordinary duties. The relations between the settlement and district establishments have throughout been most friendly. Mr. Gibson is now Deputy Commissioner ; I had the benefit of his advice and example on three occasions when he visited the settlement as Director of Land Records, and appreciated it greatly. I can only hope that he will not now have occasion to regret the considerateness of his criticisms.

Orders solicited.

80. Orders are required :—

- (1) on the term of the settlement (Paragraph 66).
- (2) on the arrangement of instalments (Paragraph 64).

M. S. LEIGH,

Settlement Officer.



STATEMENTS.

- I.—Out-turns, by circles, for each class of crop.
 - II.—Initial and final demands.
 - III.—Cost of settlement.
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APPENDICES.

- I.—Notifications and orders affecting the settlement.
- II-A.—Rules relating to the imposition, remission and reduction of assessment on lands subject to the action of the river Jhelum and Salt Range Lakes in the Shahpur District.
- II-B.—Rules applicable to villages of the Hill Circle of the Khushab Tahsil which are subject to damage by kallar shor or saturation of the soil by sub-soil water or springs.
- III.—Rules for the assessment of water-advantage rate and royalty on private canals.
- IV.—Rules for the assessment of fixed revenue on waste land broken up with the aid of canal irrigation, and the remission of the nahri rate on canal lands falling out of cultivation.
- V.—Scheme of fluctuating assessment for the riverain circles, Bhera, Shahpur, Khushab.
- VI.—Rules for working suspensions and remissions of land revenue.



STATEMENT I

*Showing on'turns for each of the main staples, by assessment circles and soils, in
maunds per acre or rupee per acre.*

STATEMENT II

Showing the initial fixed demand and the final fixed demand of the district as a whole and by Tahsils separately.

	<i>Fixed initial demand.</i>	<i>Final fixed demand.</i>
(1) Tahsil Khushab, by circles—		
(a) Jhelum circle ...	Rs. 70,062	Rs. 73,032
(b) Thal circle ...	21,000	35,900
(c) Mohar circle ...	85,618	88,100
(d) Hill circle ...	63,582	64,050
Total Tahsil ...	*2,40,252	*2,61,082
(2) Tahsil Shahpur—		
(a) Jhelum circle ...	*1,64,065	*1,77,800
(b) Ara circle ...	560	560
Total Tahsil ...	1,64,625	1,78,360
(3) Tahsil Sargodha—	...	2,200
Total Shahpur-Sargodha	1,66,691	1,80,560
(4) Tahsil Bhera—		
(a) Jhelum circle ...	1,07,043	1,16,030
(b) Bar circle ...	3,725	3,850
Total Tahsil...	1,10,768	1,19,880
TOTAL DISTRICT ...	*5,17,711	*5,81,522

^aThis does not include assessment of the *rakh* which have separately been dealt with.

STATEMENT III.

Total expenditure on re-measurement operations under all heads in the Shahpur settlement.

	<i>Budget heading.</i>	<i>Expenditure.</i> Rs.
Salary and settlement allowances of gazetted officers	... ...	<u>63,141</u>
A.—Office establishment—		
1. Office <i>kanungos</i> (inclusive of Settlement Officer's office establishment).	... ...	8,557
2. Menial establishment	... ...	<u>6,727</u>
	Total Office establishment ...	<u>15,284</u>
B.—Field establishment—		
3. Settlement Tahsildars	... ...	14,154
4. Settlement Naib Tahsildars	... ...	20,271
5. Field <i>kanungos</i> , including field allowances	... ...	<u>26,485</u>
	Total Field establishment ...	<u>60,910</u>
6. Temporary establishment, including chainmen	... ...	57,913
7. Settlement allowance to district <i>patwaris</i>	... ...	<u>4,845</u>
	Total ...	<u>62,758</u>
8. Travelling allowance of officers	... ...	5,974
9. Travelling allowances of establishment	... ...	<u>5,851</u>
	Total ...	<u>11,825</u>
	<i>Total pay and allowances of establishment</i>	<u>1,50,777</u>
Contingent expenditure, except stationery and lithography	... ...	25,995
Lithography	... ...	3,241
Stationery	... ...	<u>4,915</u>
	<i>Total Contingent expenditure</i>	<u>34,151</u>
	GRAND TOTAL	<u>2,48,069</u>
Deduct on account of sale of old furniture refunded into treasury.	... ... 92	
Deduct on account of stock transferred to other settlements, but no money realized.	<u>3,731</u>	<u>3,823</u>
	Balance	<u>2,44,246</u>



APPENDICES.

APPENDIX I.

Principal Gazette Notifications regarding the second revised settlement of the Shahpur District.

No.	Date.	Subject.
2118-S. (Rev.) ...	13th September 1911 ...	Under section 49 (1) of the Punjab Land Revenue Act, 1887 (Act XVII of 1887), it is notified, with the sanction of the Governor-General of India in Council, that a general reassessment of the land revenue of the Shahpur District, excluding the area irrigated by the Lower Jhelum Canal and the Bhera Chenab circle, is about to be undertaken.
1143	... 25th October 1911 ...	Mr. Leigh appointed Assistant Settlement Officer from 17th October 1911.
1101-E.	... 17th October 1911 ...	All the powers of a Collector under the Punjab Land Revenue Act (except those under Chapter VI) and the Punjab Tenancy Act conferred upon Mr. M. S. Leigh, with the further directions that Mr. Leigh, in the exercise of these powers, shall be subject to the control of the Collector of the Shahpur District.
28-Rev.	... 8th March 1913 ...	Directs that the existing records-of-rights of all the estates in the Khushab Tahsil shall be specially revised.
3428-S. (Rev.) ...	10th October 1913 ...	Appoints Mr. Leigh as Settlement Officer, Shahpur, from 10th October 1913.
1260-H.	... Ditto ...	All the powers of a Collector under the Punjab Land Revenue Act (except those under Chapter VI) and the Punjab Tenancy Act conferred upon Mr. Leigh, with the direction that Mr. Leigh shall not be subject to the control of the Collector of the Shahpur District.
812	... 13th May 1914 ...	Privilege leave for one month granted to Mr. Leigh from 4th May 1914.
811	... Ditto ...	Mr. Cunningham, Sub-Divisional Officer, Khushab, appointed to officiate as Settlement Officer, in addition to his own duties.
759-C.	... 2nd May 1914 ...	All the powers of a Collector under the Punjab Land Revenue Act (with the exception of Chapter VI) and the Punjab Tenancy Act conferred upon Mr. Cunningham.
879	... 10th June 1914 ...	On return from leave Mr. Leigh resumed charge as Settlement Officer.
1246	... 30th November 1915 ...	Privilege leave for one month granted to Mr. Leigh (from 13th November 1915, afternoon).
1237	... Ditto ...	Mr. J. A. Ferguson, Assistant Commissioner, appointed officiating Settlement Officer.
1173-D.	... 13th November 1915 ...	All the powers of a Collector under the Punjab Land Revenue Act (with the exception of Chapter VI) and the Punjab Tenancy Act conferred upon Mr. Ferguson, with the further direction that he will not be subject to the control of the Collector of the district.
1326	... 22nd December 1915 ...	On return from leave Mr. Leigh, Settlement Officer, resumed charge on 12th December 1915 (forenoon).

APPENDIX II-A.

Rules relating to the imposition, remission and reduction of assessment on lands subject to the action of the river Jhelum and Salt Range lakes in the Shahpur District.

1. When by river or lake action land assessed as cultivated is carried away or rendered unfit for cultivation, or land assessed as pasture is carried away or rendered unfit for grazing, the assessment charged on it shall be remitted.

2. New uncultivated land added by alluvion which is fit for grazing, unassessed land which has by the action of the river or lake become fit for grazing, and assessed cultivated land which has by river or lake action ceased to be fit for cultivation but is fit for grazing shall be ordinarily assessed at the rate of 3 annas per acre.

Exception.—When the produce is very poor the assessing officer may for reasons recorded assess at 1 anna per acre.

3. Land which was assessed at settlement as cultivated shall continue to pay the revenue at which it was then assessed, unless and until its assessment is reduced for deterioration. Thereafter it shall be treated as if it were new land.

4. New cultivated land added by alluvion, land not cultivated at settlement but since brought under cultivation, and land cultivated at settlement which has since had its assessment reduced for deterioration and has again become cultivated, shall ordinarily be assessed at the maximum rate stated in rule 11 if first class crops, and at half that rate if inferior crops, are grown on its becoming cultivated.

Note.—(a) First class crops are—

Sugarcane.

Turmeric.

Maize.

Cotton.

Wheat, mixed wheat and barley.

Vegetables (other than fodder).

Tobacco.

(b) Second class crops are all other crops.

5. Land which under the above rules has been assessed at less than the maximum rate shall be assessed at the maximum rate with effect from the first year in which the class of the crop shall justify such imposition.

6. Land shall not be classed as bearing crops of the first or second class until it has for one harvest borne a 4-anna crop of that class. The success or failure of cultivation in subsequent years unaccompanied by river or lake action shall not affect the assessment.

7. The classification of land should not be too minute unless a survey number is very large; it will usually be best to apply a single rate to the whole number, even though different parts of the fields may differ somewhat in the character of the crops grown and in the quality of the soil.

8. In calculating the revenue no fractions of 10 or less than 10 marlas should be taken into account: 10 marlas or less will be disregarded and more than this will be taken as a whole kanal.

9. Land which was assessed at settlement as cultivated, or has since been assessed at the full rates, should not ordinarily have its assessment lowered, unless it is found that such land has been injured by a flood or sand deposit, in either of which cases it shall be treated as new land and be dealt with in accordance with the above rules.

10. Land which has been rendered culturable by river or lake action and subjected to assessment at settlement or under these rules, and subsequently remains uncultivated for four successive harvests, may be presumed to have been rendered unfit for cultivation by river or lake action.

11. The maximum rates shall be Rs. 2 per acre for first class crops and Re. 1 for second class crops, both on the river Jhelum and Hills.

APPENDIX II-B.

Rules applicable to villages of the Hill circle of the Khushab Tahsil which are subject to damage by kallar shor or saturation of the soil by sub-soil water or springs.

1. When any land assessed as cultivated at settlement becomes unfit for cultivation owing to the action of *kallar shor* or saturation of the soil by sub-soil water or springs, the assessment thereon may be remitted; provided that no such remission shall be granted within two years after the harvest in which the land was last sown.
2. If the land of which the assessment has been remitted under rule 20 again becomes cultivated, the full amount assessed thereon at settlement shall again become payable; but land of very inferior quality may be assessed at half rates at the discretion of the assessing officer.
3. When in the case of land assessed at settlement as irrigated the well from which it was irrigated is rendered permanently useless owing to *kallar shor* or saturation of the soil by sub-soil water or springs, the assessment thereon may be remitted and the land will then be re-assessed at the rate imposed at settlement on unirrigated land of the same class in the same village; provided that no reduction of assessment shall be granted under this rule within two years after the harvest in which the well was last used for irrigation.
4. If land of which the assessment has been reduced under rule 22 becomes again irrigated, the full amount assessed thereon at settlement shall again become payable.



APPENDIX III.

Rules for the assessment of water-advantage rate and royalty on private canals.

1. All lands producing a matured crop or grass with the aid of irrigation from a canal shall be charged, in addition to the fixed land revenue already imposed, with a water-advantage rate of—(a) Re. 1 per acre of crops matured by flow ; (b) annas 8 per acre of crops matured by lift ; (c) annas 4 per acre of grass.

2. All lands irrigated from a private canal shall be charged with royalty rate at the rate of—(a) 12 annas* per acre of crop matured or (b, 4 annas per acre of grass.

3. No field or portion of a field shall pay more than the full rate of one harvest in one agricultural year. Thus, if an area of one acre has been assessed to water-advantage rate at Re. 1 for flow irrigation, or annas 8 for lift irrigation or annas 4 for grass in the kharif, such field shall pay nothing for similar irrigation in the rabi. And if an area of one acre has paid 8 annas for flow irrigation in the kharif, it shall not pay more than 8 annas in the rabi for flow irrigation, or more than 4 annas for lift irrigation. Care must be taken to see that full grass rates are not assessed on grass more than once in the year, and that land assessed to grass rates in the kharif is not assessed to more than 12 annas an acre for rabi crops. And similarly for royalty rates.

4. The demand on account of water-advantage rate shall be recovered from the land owner by the village headman and the demand on account of royalty rate shall be recovered from the canal owner direct. In each case recovery shall be made subsequent to the receipt of the Collector's orders confirming the proposed assessment, and not later than the last date fixed for the payment of the fixed land revenue instalment for the harvest.

5. Remissions for failure shall be allowed only in accordance with the orders of the Collector, as passed on the statement of remissions described in Part II (not printed).

Reduced to 8 annas per acre for five years by the orders contained in Punjab Government letter No. 2331, dated 2nd February 1917, to the address of Junior Secretary to Financial Commissioners.



APPENDIX IV.

Rules for the assessment of fixed revenue on waste land broken up with the aid of canal irrigation, and the remission of the nakri rate on canal lands falling out of cultivation.

1. All land now recorded and assessed (or left unassessed) as uncultivated shall, when it becomes irrigated by any canal, be liable to pay, in addition to water rate and water-advantage rate, an unirrigated land revenue rate equal to the rate sanctioned for the circle or canal irrigated land in its unirrigated aspect, less any rate that may have been assessed on it as waste land.

2. The rates sanctioned for each circle are as follows :—

Annas.		
Bhera, Jhelum and Bar	...	10 per acre.
Shahpur, Jhelum and Ara	...	8 ,,
Sargodha Bar	...	8 ,,
Khusab, Jhelum and Mohar	...	6 ,,

3. These rules shall not apply to villages which have adopted the same revenue rates for banjar as for cultivated land.

4. All land now recorded and assessed as chahi-nahri or nahri including chahi-nahri, jhalari and nahri-jhalari shall, when it has been duly attested as having become 'banjar qadim', have its revenue reduced to the rate for 'banjar qadim' in the bachh, if any, and if 'banjar qadim' was left unassessed in the bachh, then to a rate of annas 2 per acre.



*General statement showing population, area and revenue by Tahsils (Shahpur District).
(Area assessed by Mr. Leigh).*

APPENDIX V.

Scheme of fluctuating assessment for the Riverain Circles : Bhera, Shahpur, Khushab.

(*Vide* orders contained in letters No. 389-S., dated 20th August 1915, and No. 2939, dated 25th April 1916, from the Junior Secretary to the Financial Commissioners to the Commissioner, Rawalpindi Division.)

1. Instead of the existing fixed assessment and water-advantage rates, fluctuating assessment may be introduced in any village in which, owing to reduction of river-flood arising from the opening of the Lower Jhelum Canal, or to any other cause, the fixed assessment becomes excessive or unsuitable.

* On the first introduction of fluctuation in any part of a circle (*i.e.*, Bhera-Jhelum, including a few Bar villages ; Shahpur-Jhelum, including a few Ara villages ; and Khushab-Jhelum), the previous approval of the Financial Commissioner must be obtained. In other cases the Collector has power, subject to confirmation by the Commissioner, to introduce the system in any village, on proof of deterioration, whether the owners desire it or not ; but due consideration should be given to their wishes.

2. The sanctioned rates are those shown in the subjoined table ; they are applicable to matured acreage : any field of which the total outturn gives a rate per acre not less than that shown in the appended statement will be treated as fully matured ; *kharaba* will be allowed according to the *kharaba* area entered in the kharsa girdwari, according to the standing orders on harvest inspections.

3. Classes of crops are as follows :—

1st class—rice, maize, cotton, sugarcane, wheat, tobacco, medhi, fruits, spices, vegetables other than turnips grown for fodder, garden crops.

2nd class—all crops not included in any other class.

3rd class—chari, turnips grown for fodder, samuka and all other fodder crops.

4th class—(Khushab only) : *barani* melons.

4. No field shall pay more than the full rate for a first class crop in any one harvest : rabi and zaid rabi to count as one harvest.

5. Banjar will only be assessed in the kharif ; it will be assessed only in those villages and at those rates shown in the annexed table. It will not in any case be assessed on any village in which the banjar is less than 100 acres, or is not used for grazing : the burden of proving that banjar is not used for grazing is on the village.

6. All crops on wells which have been or shall hereafter be granted a certificate of exemption, shall pay the same rates as they would have paid if well water had not been applied, during the period of exemption : thus, if canal water has been applied, the nahri rate, and, if the crop has benefited by floods, the sailab rate, will be applied : otherwise the barani rate will be applied.

7. Chahi-nahri crops shall be assessed at Re. 1 per acre more than the same crop would have paid if it had been chahi ; a *jhalar* lifting water from a canal shall count as *nahri* ; other *jhalars* shall count as *chahi*.

Table of sanctioned rates per acre manured.

BREDA.		SHAHPUR.		KUASHAB.	
		Crops.		Crops.	
		1st class.	2nd class.	3rd class.	Grass.
1st class well	...	Rs. A. P.	Rs. A. P.	Rs. A. P.	Grass.
	...	5 0 0	4 0 0	3 0 0	
2nd class	...	3 0 0	2 8 0	2 0 0	
	...	3 0 0	2 8 0	2 0 0	
3rd class	...	2 0 0	1 8 0	1 0 0	
	...	2 0 0	1 8 0	1 0 0	
Nahri	...	2 8 0	2 0 0	1 0 0	
	...	2 8 0	2 0 0	1 0 0	
Sailab	...	2 6 0	2 0 0	1 0 0	
	...	2 6 0	2 0 0	1 0 0	
Barani	...	1 0 0	1 0 0	1 0 0	
	...	1 0 0	1 0 0	1 0 0	
Banjari	...	...	...	...	Grass.
	

The following will be the classification of wells and *banjar* in villages in which fluctuating assessments are asked for or ordered. In all villages or grades of well not mentioned in the lists, the 2nd grade of *chahi* rates will apply. Thus, in Achhran, all wells will be assessed in grade II; in Bhera class IV (bachh class) will be assessed in grade II. In Fatehgarh, classes II and III (bachh classes) will both be assessed in grade II. In Wairoval, class I will be assessed in grade II and so on. In villages not included in the *banjar* lists, there will be no rate on *banjar*. *Nahri* and *sailab* rates are the same for all villages.

List of villages, of which all the wells are in the first class for chahi, and chahi-nahri.

Tahsil Bhera.	Tahsil Shahpur, Sargodha.
Hajka.	Chant.
Miani.	Dhal.
Zainpur.	Dhila.
Birbaran.	Gondpur.
Bula.	Hafizabad.
Chak Ganga Das.	Jiwanwal.
Chak Nizam.	Kalianpur.
Chak Ram Das.	Paharikasli.
Kot Ahmad Khan.	Sheikhpur.
	Sigh Bala.
Kotli Ali Ahnad.	Tara Singhwala.
Midh.	Wazidi.
Pid Rahim Shah.	Nurpur.

None.

List of villages partly in the first class.

Bhera : Bachh classes I, II, III.	Shahpur : Bachh classes I, II.
Fatehgarh, I.	Shahpur Cantonment, I.
Alipur, I.	Sahiwal, I, II.
Daulatpur, I.	Nathuwala, I, II.
Ghughiat, I, II.	Midh, I.
Kalas, I.	Chak Musa, I.
Kot Mukram, I.	Dhudhi, I.
Pakhowal, I.	Jhawarian, I.
Sigh Muafi, I.	
Wadhan, I.	

List of villages in which all wells are in the third class for cahai-nahri and cahai.

Tahsil Bhara.	Tahsil Shahpur, Sargodha.
Chak Nerkhanewala.	Tebi.
Channi Saidan.	Utman-Saidpur.
Devaspur.	Manwais.
Diwanpur.	Amra.
Guluwala.	Nanowais.
Jaharewala.	Pindi Histar.
Jahanpur-Dhar.	Rakh Charegha <i>Bhera.</i>
Kalika.	Rakh Melowal.
Khairukut.	Ahli Dhabiani.
Khan Muhammadwala.	Kalri.
Rangpur Allahyar.	Khoja Salab.
Tatri.	Melowal.
Nabi Shah Bala.	
	Devasgarh.
	Dhakwan.
	Fatehabad.
	Haripur.
	Hukampur.
	Jalalpur Jaddid.
	Jowahirpur.
	Khanpur.
	Kot Muhammad Khan.
	Masar.
	Kampur.
	Salimabad.
	Sardarpur.
	Megha Ara.
	Mettu.
	Mubarewala.
	Nawehpur.
	Pir-Sabz.
	Pulla.
	Rawal.
	Sabhuwal.
	Sahmu.
	Solika.
	Shahzadpur.
	Sultapur Ara.
	Thatti.
	Said.
	Shamir.
	Abuwala.
	Abir Fatooh Shah.
	Todarpur.
	Mete.
	Jowahir.
	Baggi.
	Bohlrewala.
	Buslane.
	R. Buslane.
	Chaveke.
	Dadan.
	Dhirowal.
	Jahanian Shah Jalla Zarin.
	Kakewnla.
	Kotla Rahman.
	Kudiana.
	Lakhial.
	Muhammad Tula.

List of villages in which some wells are third class.

Bhera : Bachh class V	Shahpur : Bachh class V
Alipur : Bachh class III	Sahiwal : Bachh class V
Sigh Muasi, II	Nathuwala, V
Kot Gul Mawaz, II	Gangwal, II
Waddhan, III	Thatti Lami, Patti Gadian.
Wairowal, II	
Bhojikut, II	

Banjar rates, Taksil Bhera.

Two annas an acre.	One anna an acre.
Chak Gond Pur.	Chak Saida.
Awan.	Bula.
Chak Nizam.	Wairowal.
Midh.	Kalianpur.
Kot Ahmad Khan.	Kot Gul Mawaz.
Nimtas.	Nanowais.
Wais Muafi.	Wijjhi.
Ahli Dhabiazi.	Chak Tara Singh.
Kalias.	Manwais.
Waddhan.	Melowal.
Birbaran.	Fakhowal.
Chhant.	Jiwanwal.
Tehi.	Hazarpur.
Gaga.	Malkupur.
Chak Ganga Das.	Dewaspar.
Hafizabad.	Diwanpur.
Dhal.	Amra.
Kohlian.	Pindi Hatar.
Kesupur.	Tatri.
Chak Ram Das.	Kaleka.
Bhera.	Nurpar.
Pahari Kasle.	Jahanewala.
Khan Muhammadwala.	Chak Qazi.
Eunga Surkhra.	Khoja Salah.
Sheikhpur.	Jahanpur Dhar..
Alipur.	Jhada.
Jhammat Ranjhanwala.	Kot Mamiana.
	Chawa.
	Chak Misran.
	Nabi Shah Bala.
	Bhoji Kut.
	Khairukut.
	Thatti Walana.
	Pindikat.
	Turtipur.

Banjar rates, Shahpur, Sargodha.

Two annas an acre.	One anna an acre.
Dhudhi.	Jaaru Sakesar.
Sada Kamboh.	Bunga.
Bharti.	Utti.
Khwajabad.	Lakk.
Jhawarian.	Kahut.
Megha Kadhi.	Dhakwan.
Kudlathi.	Kakewala.
Birbal.	Rawal.
Kut Maghrab.	Kot Kamboh.
Chachar.	Sahnu.
Kot Pahlwan.	Masar.
Chak Patri N.	Shahzadpur.
Kot Bhai Khan.	Aminabad.
Kalra.	Jhammat.
Sultanpur Malikwala.	Ichhar.
Kot Khuda Bakhsh.	Midh.
Jelampur.	Thatti Neka.
Khanpur.	Mangowal Kalan.
Nawabpur.	Mangowal Khurd.
Sardarpur.	Gujranwala.
Jalpana.	Thatti Muzalam.
Eakhar.	Sahbowal.
Jalalpur North.	Hussain Shah.
Kotla Saidan.	Jalalpur Jadid.
Shahpur Civil Station.	Wadhi.
Aqil Shah.	Sultanpur Ara.
Wegowal.	Chakrala.
Jahanabad.	Bunga Baloch.
Rakh Pindi Jauri.	Gondal.
Shahpur.	Mochiwal.
Jhok Mangur.	Mubarewala.
Kandan.	Jalla Zarin.
Chak Patri South	Ahirpur Sarkhu.
Tankiwala.	Thatti Raju.
Sanika.	Bohlrewala.
Bunga Jhamat.	Dadan.
Thatti Dhakwan.	Thatti Shahani.
Thatti Ubi.	Thatti Sadshamir.
Thatti Lumi.	Baggi.
Dhirowal.	Todarpur.
Chandna.	Puhla.
Sahival.	Meta.
Dhul Kadhi.	Salipa.
Lakhiwal.	Badarbhon.
Retri.	Sheikh Jalil.
Hinjwan.	Megha Ara.
Ahli Kamboh.	Buslana.
Nihang.	
Jahanianshah.	
Slahpur Kanju.	

APPENDIX VI.

Rules for working suspensions and remissions of land revenues.

1. In each village note-book and the abstract village note-books the average area matured during five selected years has been entered so as to give an idea of what was considered at settlement a normal harvest for the village.

2. It is one of the Tahsildar's most important duties to point out promptly to the Collector any failure of crops or calamity of season which renders suspensions or remissions necessary (Land Administration Manual, paragraph 241). He must, therefore, acquaint himself with the general condition of the harvest. Even villages classed as secure should receive particular attention—(a) if the river has failed to give satisfactory floods or has, by untimely freshets, damaged standing crops ; (b) if any inundation canal has worked badly ; or (c) if the rainfall has been so deficient that an unduly large proportion of the crop has been sacrificed to the cattle.

3. The office *kanungo* should on receiving the crop abstracts prepare Form A (Standing Order No. 30, paragraph 10) for the villages which have been specified as above by the Tahsildar or which have any arrears or suspensions outstanding and Form C (Standing Order No. 30, paragraph 14) for villages which are classed as insecure.

4. The following are the danger rates for the classes of villages given in the list attached :—

*Rates—

	<i>Kharif.</i>			<i>Rabi.</i>		
	Rs.	A.	P.	Rs.	A.	P.
For insecure villages in Shahpur and Bhera	...	2	8	0		
" " " Khushab-Jhelum	...			2	0	0
" " " Khushab-Hill	...				2	8
" all the villages in Khushab-Mohar	...			0	0	0
" " " Khushab-Thal	...			0	12	0

5. The Tahsildar will consider the lists prepared by the office *kanungo*, and will see in what villages the incidence exceeds the danger rate. He will inspect these villages and fully investigate their circumstances, and when he considers that relief should be allowed he will report to the Collector (or Revenue Assistant, if any) his reasons for recommending suspension or collection in each case. If preceding seasons have been bad, he should deal similarly with estates in which the danger rate indicates a narrow margin of security.

6. The Collector before passing orders should, except in case of obvious necessity, consider the following points :—

- (1) What was the margin of security indicated by the danger rate in the previous harvest : it should be borne in mind that the tendency in the Jhelum and Thal circles is to make the *kharif* instalment heavier than the crop distribution would justify ; (2) the history of the harvest for the past two or three years ; (3) whether the estate was assessed above or below circle average, and if so, whether this was due to any intrinsic superiority or inferiority, or merely in view of the relative heaviness or lightness of the old demand ; (4) what have the profits on grazing and livestock been during the harvest : it should be remembered that, especially in the Thal and Mohar circles, the waste has been very lightly assessed, and that, unless there has been a general migration or loss of cattle, a village can generally pay up to 2 annas per acre of *banjar* without hardship ; (5) in estates depending chiefly on wells care should be taken in years of drought to allow for the portion of the crops consumed as fodder by the bullocks ; (6) regard should be had to the range of prices, the average cultivated area per owner, the character of the outturn, and the general condition of the people : it must be borne in mind that villages in which holdings are small will not profit at all by the rise in prices, if their own crops are below normal, but may quite possibly be buying grain at dear rates ; (7) in all cases of doubt the village abstract note-book should be consulted.

7. For the realization of arrears in addition to the current demand no fixed rules can be laid down, but it should be borne in mind that in the Thal and Mohar circles a really good year is so much above average that there need be no hesitation in collecting any sum indicated by the danger rates unless a long succession of bad harvests has prostrated the village. Only continuous and severe failures would justify remission in the Thal and in other villages which extend into the Thal as the assessment on the gram lands is still practically nominal. In villages which do not touch the Thal remissions should generally be granted after three years of suspension.

*In applying these rates a sum equal to Re. 1 per acre matured *nabri* and *chahi-nabri* according to the *finewar* statements should be added to the fixed demand.

8. Suspensions should always be granted in terms of even quarters of the demand, and collections of outstanding made similarly. Generally speaking, the order should be applied to the whole village equally : in the case of Thatti Muzallam the Naich Patti may be separately considered. In the case of remissions endeavour should be made to apportion the relief to the needs of individual owners.

List of the insecure villages in circles which are generally secure.

Circle—

Bhera-Jhelum (including Bar)

..

Melowal.

Shahpur-Jhelum (including Arz)

..

Ahli Dhabiani.

Khushab-Jhelum

..

Dadan.

Lakhiwal.

Thatti Muzallam.

Dhak.

Hardo Ghag.

Sandral.

Thatti Kalrani.

Shivala.

Khushab.

Mangur.

Kiralka.

Mohd. Shah.

Joya.

Thatti Ghanyera.

Chandiya.

Khura.

Kalyal.

Jaba.

Pail.

Pihra.

Kuchra.

Kadhar.

Padhray.

Khushab-Hill



List of insecure circles.

Khushab

..

Thal.

Mohar.

GLOSSARY OF VERNACULAR WORDS.

Vernacular term.	Meaning or explanation.
Abadkar	A colonist or grantee of Crown land.
Abi	A class of soil irrigated from streams or springs.
Ara	A tract of stiff clay soil in the south of the Shahpur Talsil.
Bachh	Distribution of the assessment of an estate over holdings.
Bajra	Bulrush millet (<i>Penicillariae spicata</i>).
Banjar	Waste land available for cultivation.
Banjar jadid	Land which has lain waste more than three and less than eight harvests.
Banjar qadim	Land which has lain waste for eight or more harvests.
Bar	High lying land between river valleys.
Barani	Unirrigated (land).
Chahi	Cultivation dependent on well irrigation.
Chahi-nahri	Land irrigated from both canals and wells.
Chabaram	Share of produce taken as water rent by private canal-owners.
Chari	<i>Jowar</i> used for fodder.
China	A grain (<i>Panicum miliaceum</i>).
Danda	The high bank of the Jhelum river or the old bank of the Jhelum river valley.
Ghi	Clarified butter.
Girdawari	Crop inspection.
Hadbarari	Demarcation of land.
Hail	Land which receives water from a torrent or hillside.
Halqadar	The person in charge of a circle and enjoying a cash emolument for services to Government in his circle.
Inam	A grant of land revenue to a rural notable.
Inamkhor	The holder of an <i>inam</i> .
Jagir	An assignment of land revenue.
Jagirdar	The person enjoying an assignment of land revenue.
Jamabandi	Annual record-of-rights.
Jech Doab	Land of a village lying between the Jhelum and the Chenab rivers.
Jhalar	Water-lift.
Jowar	Great millet (<i>Sorghum vulgare</i>).
Kalar	Land impregnated with salt.
Kardar	An agent or representative.
Kangni	A small cereal (<i>Itaria italica</i>).
Kazungo	A revenue official who supervises the <i>patwaris</i> .
Khalsa	Revenue demand not assigned to grantees, but paid to Government.
Khurif	Autumn harvest.
Khatauni	A slip showing holdings by tenants.
Khush-haisiyati	Water-advantage rate.
Lagha	A cup of clay soil between sandhills.
Lambardari	Cells levied for payment of village headmen.
Malik	A title borne by leading land-owners.
Malikana	Proprietary dues.
Massar	A lentil (<i>Ervum lens</i>).
Majira	Loam not directly flooded.
Mehdi	A myrtle shrub the leaves of which are used as a dye (<i>Laurus nobilis</i>).
Mehar	The foot of the Salt Range.
Moth	A pulse (<i>Phaseolus aconitifolius</i>).
Muafi	An assignment of land revenue.
Muafidar	An assignee of land revenue.
Mung	A pulse (<i>Phaseolus mungo</i>).
Munsif	A Civil Judge.
Nahri	Land irrigated by canals.
Naladar	Land in the Mohar circle which receives water from a torrent or hill-side.
Nazarat	Staff of <i>nazir</i> (q. v.).
Nazir	An accountant.
Nishan dehi	Demarcation of boundaries.
Patwari	Village accountant.
Pir kaudi	A local game.
Rabi	The spring harvest.
Rakh	A State preserve.

Glossary of vernacular words—concluded.

Vernacular term.	Meaning or explanation.
Raridar	Land receiving drainage water from higher lands.
Riwaj-i-am	Statement of social customs.
Sailab	Land subject to river floods.
Shadi	Wedding.
Sind Sagar Doab	Land lying between the Indus and the Jhelum rivers.
Tahsil	Revenue sub-division of a district.
Tahsildar	Officer in charge of a <i>tahsil</i> (<i>q. v.</i>).
Tahsildar Mahal	Tahsildar in charge of ordinary revenue work of a <i>tahsil</i> as opposed to Special Settlement Tahsildars.
Taramira	An oilseed (<i>Eruca sativa</i>).
Taluqa	An obsolete term for a revenue sub-division.
Thal	The sandy uplands of the Sind Sagar Doab.
Til	An oilseed (<i>Sesamum</i>).
Toria	An oilseed (<i>Brassica campestris</i>).
Tughiani	Land irrigated from an inundation canal.
Wari	A sandhill brought under cultivation.
Zaildar	A man of local influence appointed to have charge of a <i>sail</i> [sub-division of <i>tahsil</i> (<i>q. r.</i>)].
Zamindar	Landed proprietor : share-holder in an estate.
Zamindar ka parcha	Copy of <i>khatauni</i> (<i>q. v.</i>) given to cultivator.



